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Music Therapy Assessment in School Settings: A Preliminary Investigation

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The present investigation was undertaken in response to music therapists working in school settings for information relating to the availability of music therapy assessments and the feasibility of standardizing an assessment instrument for music therapists to use in school settings. Five research questions were identified, and the music therapy literature was surveyed to compile responses to those questions. Three different online data bases (ERIC, PsycINFO, and Article 1st) were used, covering articles published between 1980 and 1997. Individual hand searches were done of the Arts in Psychotherapy, Journal of Music Therapy, Journal of Research in Music Education, Journal of the International Association of Music for the Handicapped, Music Therapy *and* Music Therapy Perspectives. *The questions and responses were as follows: 1.* Which music-based assessment tools are being used with children with disabilities? *Little commonality in assessment tools being used by music therapists and researchers was discovered. Of the total 41 studies, 20 (49%) reported using a "named" or "titled" assessment tool, and in the remaining 51% of studies, the authors reported using an untitled, and usually experimenter-designed, original assessment tool. 2.* Have certain assessments been used in more than one study? *Very limited replication of existing assessments was found. Of the 16 "named" assessments, only 3 were found to be used in more than one research study. 3.* Are the actual assessments published along with the articles describing their use? *Only 3 of the 20 studies using named assessments were published along with the journal article. Of the remaining 21 studies using original, experimenter-designed assessment tools, only 6 (28%) had the assessment instrument published with the article. 4.* What is the primary

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purpose for using the assessment? *Six primary purposes emerged from the review of the literature: to compare with data obtained from other assessment measures or from other populations (39%), as a baseline or pretest measure (29%), to determine eligibility for services or the receipt of treatment (12%), to determine the psychometric properties of the assessment (7%), suitability of the instrument for the given population (7%), and the identification of musical preferences (5%). 5.* What are the musical or nonmusic elements being assessed? *Musical elements were: music perception (37%), musical aptitude (29%), musical preferences (12%), and attention to/enjoyment of music (2%). Nonmusical behaviors/responses were: self-expression (10%), motor responses (10%), behavioral responses (7%), cognitive development (2%), and acts of communication (2%). 6.* What subject populations are being assessed? *Subject populations were: children with developmental disabilities/mental retardation (44%), children with autism (10%), children with hearing impairments (17%), "psychiatric" clients or emotionally disturbed (22%), individuals described as "handicapped" (5%), individuals with physical disabilities (2%), and a student with a speech impairment (2%). Nondisabled individuals were also included in 12 of the aforementioned studies.*

Cohen and Spenciner (1998) define assessment in an education context as a "global term for observing, gathering, recording, and interpreting information to answer questions and make legal and instructional decisions about students" (p. 8). Assessment has been integrally related to the provision of special education services, initially through the passage of Pub. L. No. 94-142 in 1972, later through the 1990 reauthorization known as the Individuals with Disabilities Education Act (IDEA), and most recently through the 1997 Individuals with Disabilities Act Amendments, Parts B and C. According to federal legislation, a multidisciplinary team (*Federal Register,* 1992, Sec. 300.532) obtains assessment information to use in the development of the Individualized Education Program (IEP) for each student. The manner in which assessment occurs varies according to the particular model that is in use: multidisciplinary, interdisciplinary, or transdisciplinary (Johnson, 1998), with psychologists, classroom teachers, and other evaluation specialists performing psychological, medical, and curriculum-based assessments (Hughes & Robbins, 1998).

Assessment in the therapy process can occur as a measurement tool to establish a baseline for therapy, an investigatory procedure leading to a diagnosis of need, an evaluation of the efficacy of intervention, or a screening procedure to pinpoint areas for further investigation. Cohen and Spenciner (1998) describe six steps in the assessment process for students who have or may have disabilities: screening, referral, determining eligibility, program planning, program monitoring, and program evaluation (p. 9). Davis, Gfeller, and Thaut (1992) propose that music therapists know how to administer assessments to be able to use the information learned from an assessment to help determine the nature and scope of treatment or if the client is suited for music therapy. If music therapy is deemed appropriate, assessment information helps determine what treatment goals and techniques are appropriate (Davis et al., 1992, p. 290). A second reason suggested by Davis et al. is to provide a reference against which progress during treatment can be measured. Isenberg-Grzeda (1988) and Cohen, Averbach, and Katz (1978) see the continued growth and development of the music therapy profession as dependent upon the ability to accurately assess, monitor, and evaluate treatment.

Isenberg-Grzeda summarized selected music therapy assessments in a 1988 study as having five major parameters which defined the tools: client population (Boxill, 1985; Braswell et al., 1983; Crocker, 1955; Michel & Rohrbacher, 1982; Wasserman, Plutchik, Deutsch, & Takemoto, 1973); area of functioning/condition (Boxill, 1985; Michel & Rohrbacher, 1982; Rider, 1981; Wasserman et al., 1973); theory/model (Braswell et al., 1983; Rider, 1981); technique (Bitcon, 1976; Bruscia, 1987; Crocker, 1955; Nordoff & Robbins, 1977); and response to the institution (Braswell et al., 1983; Sutton, 1984). In 1992, Davis et al. categorized selected music therapy assessments by subject populations, context, and musical medium: mentally retarded (Boxill, 1985; Cohen et al., 1978; Cohen & Gericke, 1972; Wasserman et al., 1973); psychiatric patients (Braswell et al., 1983, 1986); hearing impaired (Gfeller & Baumann, 1988); cognitive development in adults and children (Rider, 1981); emotionally disturbed children using improvised music (Crocker, 1955); and autistic children (Nordoff & Robbins, 1977). Assessment scales (Bitcon, 1976; Bruscia, 1987) developed for general clinical populations were also included in the listing (Davis et al., 1992). Despite increasing numbers of music therapy assessments, Davis et al. (1992) caution that "the drawback for many of these tests is that reliability

and validity have not been established, so caution must be used when interpreting the results" (p. 292).

Grant (1995) urged music therapists to "bring to the initial planning stages our uniqueness—music—and the students' unique responses to music stimuli" (p. 273). He further suggested that "music therapists working in school settings as a part of multi-disciplinary teams have much to offer other team members in terms of assessment information" (p. 273). While music therapists may play an integral role in the assessment process, the extent of their involvement depends in large part on the role which the music therapists plays in the evaluation team.

Johnson (1998) described assessment practices under a Multidisciplinary Model as being individually conducted by each team member, with assessment results compiled when the IEP team meets together. The process is similar under an Interdisciplinary Model with the exception of team members sharing assessment results prior to the IEP meeting. Individuals working within a Transdisciplinary Model view the student holistically, and therefore assess integrated, functional activities, instead of discrete skills. Johnson (1998) suggested that music therapists might be able to have input at the intake level, the programming stage, or at the IEP development phase under this model.

The actual role that music therapists have played in recent days is exemplified through comments such as those made by Hughes and Robbins (1998) and Johnson (1998). Hughes and Robbins (1998) reported that in the Leon County, Florida, school system, music therapists "are not directly involved in primary assessment for IEPs. They can, however, recommend IEP modifications based on music therapy program data" (p. 225). Johnson encouraged music therapists to "introduce assessment results from observation, therapist-made tools, and other informal methods to the team's review of students' needs" (p. 50) in the absence of standardized music therapy assessment tools. The present investigation was undertaken in response to music therapists working in school settings. Their request for information relating to the availability of music therapy assessments and the feasibility of standardizing an assessment instrument for music therapists to use in school settings led to the following research questions: (a) Which music-based assessment tools are being used with children with disabilities? (b) Have certain assessments been used in more than one study? (c) Are the

actual assessments published along with the articles describing their use? (d) What is the primary purpose for using the assessment? (e) What are the musical or nonmusic elements being assessed? and (f) What subject populations are being assessed? The focus of this investigation is in formulating responses to these questions.

Method

The music therapy literature was initially surveyed for information related to music therapy assessment in school settings. The results of that survey revealed few citations, so the parameters of the search were extended to include any music-based assessment involving children with disabilities. Three different online data bases (ERIC, PsycINFO, and Article 1st) were used, covering articles published between 1980 and 1997. Individual hand searches were done of the *Arts in Psychotherapy, Journal of Music Therapy, Journal of Research in Music Education, Journal of the International Association of Music for the Handicapped, Music Therapy,* and *Music Therapy Perspectives.*

For the purposes of this investigation, an assessment was defined as any music-based evaluation of a child's psychological, educational, social, behavioral, physiological, or musical functioning completed prior to the delivery of music therapy or other services/interventions. More specifically, an assessment was interpreted to mean any evaluative measure where the response to a music-based stimulus or question (e.g., pretest, baseline recording, survey of musical preferences) was a major determinant for measuring the success of a later intervention.

Studies involving children with disabilities who ranged in age from birth to 18 years were included regardless of whether the research was conducted in a school or "laboratory" (e.g., university clinic) setting. However, research studies assessing children's response to, or recuperation from, various medical/dental procedures were not included nor were program descriptions or theoretical pieces that included a discussion of assessment but offered no actual data. Furthermore, studies that used only very broad-based and general assessment criteria (e.g., ability to hear the initiation or cessation of sound/music, manipulate rhythm instruments, utter simple vocalizations) were excluded from the sample. Finally, studies where music was primarily used as a teaching tool or therapeutic intervention without any evidence of a music-based assessment component were also not included in the sample.

In general, the researchers wanted to determine what assessments were being used, with whom, and for what purpose. Did the information garnered from the assessment help to determine whether a child would be included or excluded from receiving a particular treatment condition or learning experience? Before undertaking the literature review, the researchers identified the following questions: (a) Which music-based assessment tools are being used with children with disabilities? (b) Have certain assessments been used in more than one study? (c) Are the actual assessments published along with the articles describing their use? (d) What is the primary purpose for using the assessment? (e) What are the musical or nonmusic elements being assessed? and (f) What subject populations are being assessed?

Results

A total of 41 studies met the criteria described above and were further analyzed. Each study was evaluated to determine the stated or implied context/rationale for the use of the assessment, the specific populations that received the assessment, the musical mediums used in the assessment, and the overall purpose for using the assessment (see Table 1). In accordance with the previously stated research questions, the following information was derived:

1. *Which music-based assessments are being used with children with disabilities?* Based on the research studies surveyed, there appears to be little commonality in assessment tools being used by music therapists and researchers. Of the total 41 studies, 20 (49%) reported using a "named" or "titled" assessment tool. A listing of those assessments is shown in Table 2. In the remaining 51% of studies, the authors reported using an untitled, and usually experimenter-designed, original assessment tool.

2. *Are certain assessments appearing more frequently than others in the research literature?* There appears to be very limited replication of existing assessments. Of the 16 "named" assessments, only 3 were found to be used in more than one research study. Gordon's Primary Measures of Music Audiation (1979) was used in three studies, and both of the computer related assessments ("Toney Listens to Music" software and the Continuous Response Digital Interface) were used in two studies each (see Table 2).

3. *Are the assessments published along with the articles describing their use?* One reason for the lack of replication may be the fact that very few of the "named" assessments are published concurrently with

TABLE 1

Music-based Assessments of Children with Disabilities

Citation	Context	Subject Population	Musical Mediums Used	Purpose
Byrnes, S. R. (1997).	Compare music preferences of trainable mentally handicapped to nondisabled peers	Mentally retarded, Nondisabled	Listening	Establish musical preferences
Griggs-Drane, E., & Wheeler, J. J. (1997).	Assess behavior during music therapy or other environments	Autism	Varies	Determine treatment protocol
Buday, E. M. (1995).	Compare learning of sign language under music/no music conditions	Autism, Mentally retarded	Not specified	Determine eligibility
Howell, R. D., Flowers, P. J., & Wheaton, J. E. (1995).	Measure effect of music instruction on rhythmic accuracy	Physical disabilities, Nondisabled	Computer software (Instant Pleasure)	Pretest
Lindberg, K. A. (1995).	Assess musical skills	Psychiatric (abused adolescents)	Not specified	Pretest/ baseline
Orsmond, G. I., & Miller, L. K. (1995).	Correlate musical improvisation ratings with other assessments—Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981), Developmental Test of Visual-Motor Integration (Beery, 1989), Aberrant Behavior Checklist (Aman et al., 1985)	Developmental disabilities (i.e., autism, PDD, mentally retarded)	Creating, playing	Basis for comparison with cognitive & behavioral measures
Edgerton, C. L. (1994).	Compare scores of Checklist of Communicative Responses/Acts Score Sheet (Edgerton, 1994) to ratings of communication and social behavior	Autism	Creating, playing, singing, listening	Pretest

TABLE 1
Continued

Citation	Context	Subject Population	Musical Mediums Used	Purpose
Coffman, D. D., Gfeller, K., Darrow, A. A., & Coffman, S. L. (1992).	Assess differences in music perception between hearing impaired & nondisabled children	Hearing impaired, nondisabled	Listening	Comparison
Gfeller, K., & Lansing, C. (1992).	Test report for individuals with cochlear implants to Primary Measures of Music Audiation (Gordon, 1979)	Hearing impaired	Listening	Determine appropriateness of instrument to assess musical perception
Darrow, A. A. (1991).	Assess timbre and musical instrument preferences of hearing impaired children	Hearing impaired	Listening	Establish baseline
Edenfield, T. N., & Hughes, J. E. (1991).	Assess singing ability in 5 categories	Secondary students with Down Syndrome	Singing	Correlate 5 different singing abilities with IQ
Jellison, J. A., & Flowers, P. J. (1991).	Describe, categorize & compare music preferences & abilities	"Disabled" and nondisabled	Singing, maintaining steady beat	Comparison
Madsen et al. (1991).	Measures immediate responses to music stimuli	"Handicapped" & nondisabled	Listening	Establish musical preferences & emotional response
Velasquez, V. (1991).	Global instrument assessing attention/response, participation, concept identification, communication, self-concept	Down syndrome	Unknown	Pretest/ baseline

TABLE 1
Continued

Citation	Context	Subject Population	Musical Mediums Used	Purpose
Goldstein, S. L. (1990).	Compare scores on Songwriting Assessment for Helplessness (Goldstein, 1990), to Beck Hopelessness Scale (Beck et al., 1974).	Psychiatric	Creating (songwriting)	Establish validity of instrument
Goodman, K. D. (1989).	Assess musical preference, responsiveness and verbal associations	Emotionally disturbed	Various	Determine eligibility
Hunter, L. (1989).	Computer-based method to assess music discrimination skills	Mentally retarded	Listening	Establish baseline
Madsen, C. K., & Darrow, A. A. (1989).	Correlate music aptitude with sound conceptualization abilities	Visually impaired	Listening	Comparison
Ford, T. A. (1988).	Assess pitch discrimination abilities	Hearing impaired	Listening	Establish effectiveness of test instrument
Hoskins, C. (1988).	Compare Peabody Picture Vocabulary Test (Dunn & Dunn, 1981) scores under spoken/melodic conditions	Developmentally disabled, mentally retarded	Listening	Pretest
Kelley, C. R. (1988).	Explores & evaluates self-expression in specific art, music, drama, & movement experiences	Not specified (psychiatric)	Melodic & rhythmic imitation	Determine eligibility
Wells, N. F. (1988).	Assess 3 tasks (song choice, composition, improvisation)	Emotionally disturbed	Listening, playing, creating	Determine appropriateness for service

TABLE 1
Continued

Citation	Context	Subject Population	Musical Mediums Used	Purpose
Darrow, A. A. (1987).	Assess music perception of hearing impaired	Hearing impaired	Listening	Pretest
Moore, R., & Mathenius, L. (1987).	Assess ability to maintain steady beat patterns	Mentally retarded	Listening, playing, moving	Pretest
Santamaria, A. (1987).	Evaluate imitation abilities	Mentally retarded, nondisabled	Listening	Comparison
Staum, M. J. (1987).	Using music notation to teach normal speech prosody	Hearing impaired	Listening, vocalizing, moving (clapping)	Determine eligibility
Grant, R. E., & LeCroy, S. (1986).	Compare rhythmic imitation skill under three conditions	Mentally retarded	Listening, playing	Comparison
Braswell et al. (1986).	Determine psychometric properties of Music/Activity Therapy Intake Assessment for psychiatric patients (Braswell et al., 1986)	Psychiatric patients	None (interview format)	Establish internal consistency in assessment instrument
Jones, R. E. (1986).	Explore if Musical-Perception Assessment of Cognitive Development (Rider, 1981) is a valid tool for assessing cognitive development in mentally retarded	Mentally retarded	Various	Comparison
Grant, R. E., & Share, M. R. (1985).	Investigate whether a correlation existed between vocal range and pitch discrimination	Mentally retarded	Listening	Comparison

TABLE 1
Continued

Citation	Context	Subject Population	Musical Mediums Used	Purpose
Myers, K. F. (1985).	Investigate relationship between degree of disability and vocal range, vocal range midpoint, and pitch-matching ability	Mentally retarded, psychiatric	Listening, vocalizing	Comparison
Darrow, A. A. (1984).	Measure beat identification, tempo change, melodic & rhythmic duplication, etc.	Hearing impaired, nondisabled	Listening	Correlational study comparing rhythmic responsiveness between hearing impaired & nondisabled
Flowers, E. (1984).	Examine musical perceptions	Mentally retarded (Down syndrome), nondisabled	Listening	
Steele, A. L. (1984).	Format for relating behavioral observations to music therapy setting	Learning disabled	Various	Baseline/evaluation
Sutton, K. (1984).	Correlate data from Music Therapy Physiological Measures Test (Sutton, 1984) with physical therapy evaluation	Various	Motor	Establish reliability and validity
Atterbury, B. W. (1983).	Compare music perception & rhythm performance of learning disabled & nondisabled children	Learning disabled, nondisabled	Listening	Comparison

TABLE 1
Continued

Citation	Context	Subject Population	Musical Mediums Used	Purpose
Gilbert, J. P. (1983).	Compare motor music skill development of learning disabled & nondisabled children	Learning disabled, nondisabled	Moving	Correlate improvements in motor music skills with age and presence of disability
Bruscia, K. E. (1982).	Assess response to various vocal, instrumental, & motor rhythmic tasks	Speech impaired	Various	Baseline/ pretest
Merle-Fishman, C. R., & Marcus, M. I. (1982).	Assess instrumental preference, rhythmic response, & vocal/verbal behavior	Emotionally disturbed, nondisabled	Various	Assess differences in musical behaviors between emotionally disturbed & nondisabled
Soraci et al. (1982).	Investigate the effect of rhythmic music on maladaptive behavior patterns	Mentally retarded	Listening, moving	Exploratory study
Larson, B. A. (1981).	Investigate perceptual abilities of emotionally disturbed & nondisabled on visual and auditory recognition tasks	Emotionally disturbed, nondisabled	Listening	Comparison

TABLE 2

"Named" Assessment Measures, Availability, and Frequency of Use

Citation/s	Assessment	Available in Journal?	Frequency of Use
Atterbury, B. (1983); Darrow, A. A. (1987); Gfeller, K., & Lansing, C. (1992).	Primary Measures of Music Audiation (Gordon, 1979)	No	3
Madsen, C. K., Capperella-Sheldon, D. A., & Johnson, C. M. (1991); Byrnes, S. R. (1997).	Continuous Response Digital Interface (Robinson, 1988)	NA	2
Hunter, L. (1989); Coffman, D. D., Gfeller, K., Darrow, A. A., & Coffman, S. L. (1992).	"Toney Listens to Music" (computer software) (Williams & Fox, 1983)	NA	2
Edgerton, C. L. (1994).	Checklist of Communicative Responses/Acts Score Sheet (Edgerton, 1994)	No	1
Velasquez, V. (1991).	Cohen Music Therapy Assessment Tool (Cohen, 1986)	No	1
Darrow, A. A. (1991).	Instrument Timbre Preference Test (Gordon, 1984)	No	1
Gilbert, J. P. (1983).	Motoric Music Skill Test (Gilbert, 1980)	No	1
Braswell et al. (1986).	Music/Activity Therapy Intake Assessment for Psychiatric Patients (Braswell et al., 1986)	Yes	1
Madsen, C. K., & Darrow, A. A. (1989).	Music Aptitude Profile (Gordon, 1965)	No	1
Goodman, K. D. (1989).	Music Therapy Assessment Tool for Emotionally Disturbed Children (Goodman, 1989)	Yes	1
Sutton, K. (1984).	Music Therapy Physiological Measures Test (Sutton, 1984)	Yes	1
Jones, R. E. (1986).	Musical-Perception Assessment of Cognitive Development (Rider, 1981)	No	1
Larson, B. A. (1981).	Seashore Measures of Musical Talents—Rhythm Subtest (Seashore, 1919)	No	1
Goldstein, S. L. (1990).	Songwriting Assessment of Hopelessness (Goldstein, 1990)	No	1
Darrow, A. A. (1984).	Test of Rhythmic Responsiveness (Kaplan, 1977)	No	1
Madsen, C. K., & Darrow, A. A. (1989).	Walker Test (Walker, 1987)	No	1

TABLE 3
Primary Purpose of Assessment

Primary purpose of assessment	Number of studies with this primary purpose
Comparison with other populations or assessment measures	16
Establish baseline/pretest	12
Determine eligibility for services or treatment	5
Establish or determine internal consistency/validity/reliability of assessment instrument	3
Determine appropriateness of assessment instrument for given population	3
Establish musical preferences	2

the articles reporting on their use. Of the 20 studies using named assessments, only 3 (16%) were published along with the journal article (see Table 2). Of the remaining 21 studies using original, experimenter-designed assessment tools, only 6 (28%) had the assessment instrument published with the article.

4. *What is the primary purpose for using the assessment?* Six primary purposes emerged from the review of the literature (see Table 3). Sixteen (39%) of the studies used the information gathered from the music-based assessment to compare with data obtained from other assessment measures or from other populations. Twelve (29%) of the studies used the assessment information as a baseline or pretest measure. Only five (12%) reported that the results of the assessment influenced decisions regarding eligibility for services or the receipt of treatment. Three studies (7%) were attempting to determine the psychometric properties of the assessment by testing for internal consistency, validity, and/or reliability of the instrument. Another three studies (7%) were looking at the appropriateness of the assessment instrument for the given population. Two studies (5%) targeted the identification of musical preferences as the primary purpose of the assessment.

5. *What are the musical or nonmusical elements being evaluated in the assessments?* The musical responses evaluated in the assessments were varied (see Table 4). Fifteen studies (37%) included some evaluation of music perception, 12 (29%) assessed some level of musical aptitude, 5 (12%) measured musical preferences, and 1 (2%) assessed attention to/enjoyment of music. Some assessments used musical elements to evaluate nonmusical behaviors/re-

TABLE 4

Primary Context of Assessments

Primary context of assessment	Number of assessments evaluating context
Music perception (e.g., auditory discrimination skills)	15
Music aptitude (e.g., melodic & rhythmic imitation abilities)	12
Music preferences	5
Motor development	4
Self-expression	4
Behavior	3
Attention to/enjoyment of music	1
Cognitive development	1
Communication	1
Unknown	1

sponses: 4 (10%) measured self-expression, 4 (10%) measured motor responses, 3 (7%) looked at behavioral responses, 1 (2%) assessed cognitive development, and 1 (2%) acts of communication. Several of the assessments mentioned in the studies either lacked sufficient detail to discern their main focus or were multidimensional covering many different aspects of the client's behavior.

6. *What special populations are being assessed?* Concomitant with the wide diversity in context area is the differing classifications of disabilities being assessed. Developmental disabilities/mental retardation accounted for the largest grouping appearing in 18 (44%) of the studies. Four studies (10%) used the assessment tool with children with autism while 7 studies (17%) assessed children with hearing impairments. Participants identified as either "psychiatric" clients or emotionally disturbed were assessed in 9 (22%) of the studies. Two studies (5%) used individuals described as "handicapped" without offering any further information about their disabilities. One study (2%) assessed individuals with physical disabilities and 1 (2%) assessed a student with a speech impairment. Nondisabled individuals were also included in 12 of the aforementioned studies.

Discussion

The focus of this investigation on music-based assessments with children with disabilities represents a first step at meeting the needs of the growing numbers of clinicians who work with this pop-

ulation. Their request for information relating to the availability of music therapy assessment instruments, and the feasibility of standardizing an assessment instrument for music therapists to use in school settings was the impetus for this literature search and evaluation. While the request itself seemed straightforward, the researchers soon realized that the amount of information that would be needed to fully satisfy the inquiry was far beyond the scope of a single investigation. Therefore, a thorough review of existing research literature was undertaken to identify and examine existing tools, with future plans made to more directly address the request.

One of the first difficulties encountered in this investigation was appropriately delimiting the focus to elicit usable information. A logical first step would have been to obtain existing assessment instruments, evaluate them in terms of common elements, and make some kind of evaluation of their worth. While this would certainly have been possible, and the researchers did in fact gather assessment tools from clinicians and educators, more objective information about the tools was sought. In particular, assessment instruments which appeared in data-based research studies became the focus. The scope of the investigation was broadened from only looking for assessment tools which were used in school settings to instruments which were used with children with disabilities. Only those assessments which were music-based were included owing to the fact that music-based assessments are those which will lend credibility to the unique role that music therapists fulfill in the team assessment process.

The feasibility of standardizing an assessment instrument was part of the initial request for this project. Despite the existence of some highly developed music therapy assessment instruments, no evidence was obtained through the literature search that attempts at standardization had been made to any of them. While other disciplines which provide services to disabled children in school settings, such as physical therapy, occupational therapy, and speech therapy, have all given attention to the standardization of assessment instruments, music therapy has not. Music therapists certainly have much information to contribute to IEP teams through observation, therapist-made tools, and other informal methods (Johnson, 1998); however, this same type of information may not be enough in terms of gaining reimbursement for services from third party payers. The growth in contractual music therapy

providers, especially in school settings, suggests an increased need for investigation into the development of a standardized music therapy assessment. Grant (1995) indicates that there has been a lack of unanimity within the music therapy profession concerning the need for standardization; however, there is now greater impetus to proceed in this area.

The response of clinicians and educators in sharing information about assessment measures was positive. While many utilized instruments that they had developed for their individual clinical needs, those were typically modeled after assessments developed and sometimes published by others. Unfortunately, the availability of these model assessments to the rank and file music therapist is limited. Compilations of assessment tools in other disciplines are published and made available for clinical use. At the present time, that same kind of resource is not available for music therapists. Evidence that this is true is found in the initial request for this investigation from the school clinicians. They were aware of the assessments they were currently using, but were not aware of others in existence. While many of the more well-known assessments have been listed and briefly described in print (Davis et al., 1992; Isenberg-Grzeda, 1988), more in-depth information about their availability and specifics has not been documented.

In a similar vein, the lack of research conducted utilizing these "model" assessments is also troubling. In 1985, the Boxill assessment was included in a book focused on music therapy with developmentally disabled. While many references to the Boxill assessment were received from clinicians, there was no documentation of its utilization in a research format in the literature examined. There is the possibility that research of this sort was conducted, possibly as a masters thesis or doctoral dissertation, but never published. If this is the case, greater attempts to compile and make available graduate investigations need to occur. However, increased attention to the careful examination of music therapy assessment instruments in research formats is certainly warranted.

The on-going dialogue between researchers and clinicians can only benefit our entire profession. Just as this investigation was prompted by a clinical need, there are undoubtedly many more issues just waiting to be addressed. The challenge to us all is to foster an atmosphere of cooperation in which these requests are not only heard, but acted upon. In some cases, answers to those requests

cannot possibly come from a single investigation. They are complex issues that require examination from a number of vantage points. However, a commitment to the process of research from the classroom to the clinic will result in answers to even the most perplexing questions of our profession.

Additional research into music therapy assessments seems warranted based on the results of this investigation. While there were 41 studies that used a music-based assessment with children with disabilities, only 16 of those were "named" assessments, and only 3 of those were used in more than one study. The lack of replication makes it difficult to generalize results beyond those of the original sample, but the fact that only 3 of the named assessments published the instruments with the study may account for that situation. One area of future research should look at the replication of existing music therapy assessments.

Another area of investigation relates to the music therapy assessments previously received from clinicians and educators. A cursory examination of these materials revealed two distinct groups of research methodologies as to how music was used in the assessment of children with disabilities. In one group of studies, children' s responsiveness to specific music situations was used as either (a) a criteria for determining eligibility for further study/training, or (b) a pretest/baseline for evaluating the effect of a specific learning experience or treatment condition that would follow. In the second group of studies, children's responses to specific music situations were correlated with other assessment measures in an attempt to establish evidence of internal consistency, validity, and/or reliability of the music-based assessment. Both groups of methodologies bear closer evaluation.

Additional music therapy assessments, not previously identified through the parameters of this preliminary investigation or clinicians and educators, should be examined. Specifically, those found in several recently published book titles include: *Models of music therapy interventions in school settings: From institution to inclusion* (Wilson, 1998); *Effectiveness of music therapy procedures: Documentation of research and clinical practice* (Furman, 1996); *Music therapy research and practice in medicine* (Aldridge, 1996); *Multimodal psychiatric music therapy for adults, adolescents, and children: A clinical manual* (Cassity & Cassity, 1995); and *The art and science of music therapy: A handbook* (Wigram, Saperston, & West, 1995). Investigation of these, and other as

yet unidentified music therapy assessments, and commercially available products also seems warranted.

Finally, the development of additional music therapy assessments should not be ignored. Isenberg-Grzeda (1988) called for the following guidelines in terms of developing music therapy assessments: (a) specialized musical and "music therapeutic" skills be required of the therapist, (b) areas of functioning that are not as easily accessible with other modalities be targeted, (c) areas of functioning assessed in related fields also be targeted in music therapy assessments, and (d) focus on assessing clients who are untestable with other existing assessment methods by exploiting the motivating, gratifying, nonintellectual, and right hemispheric aspects of music. While considerable amounts of time and cooperation may be required from both researchers and clinicians in the development process, it is possible that the end result will be worth the effort.

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