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A qualitative study of children in crisis: Interventions through music therapy and digital music technology

Nagler, Joseph Charles, D.A.

New York University, 1993

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Sponsoring Committee: Professor Barbara Hesser, Chairperson
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A QUALITATIVE STUDY OF CHILDREN IN CRISIS:
INTERVENTIONS THROUGH MUSIC THERAPY
AND DIGITAL MUSIC TECHNOLOGY

Joseph Charles Nagler

Submitted in partial fulfillment of the requirements for the degree of Doctor of Arts in the School of Education, Health, Nursing, and Arts Professions
New York University
1993
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Joseph C. Nagler

February, 12 1993
Dedicated to

Alexander, Rebecca, and Dylan Nagler

My children
ACKNOWLEDGMENTS

I have completed this course of study with the help of many people. I would like to take this opportunity to formally acknowledge their presence and input.

I owe an acknowledgment of gratitude to the participants of this study; your lives and work have inspired me and taught me great lessons.

The members of my sponsoring committee have helped me to define and shape this study from its inception to completion. I would like to acknowledge: Barbara Hesser for first seeing my talents and then guiding and supporting my professional growth in the past decade. Mathew Lee for his guidance, support, and his opening of so many doors for me. Kenneth Peacock for his contribution to my understanding of digital music technology and the doctoral process. John Gilbert for his help and talents in making this project possible. Kenneth Aigen for his research support. Joanne Loewy and Amy Hammel for their continuous support and friendship. Additionally, I would like to acknowledge my friends and peers in the NYU community. They are: Tina Brescia, Judi Rubin-Bosco, David Gonzalez, David Schroeder, and Connie Tomaino.
I would like to thank members of the professional musical instrument community for their support of this project. They are: Michael D' Amore of Yamaha Music Inc., Ben Austin of Opcode Systems Inc., and Anthony Di Lorenzo of Sam Ash Music.

I am blessed with a loving and supportive family that never failed in their belief in me. I would like to acknowledge their patience and faith in my talents: My children, Alexander, Rebecca, and Dylan. My parents Marian and Alfred Nagler, my grandparents, Vincent and Rose Liotta, and my mother- and father-in-law, Marilyn and Herb Cantor. My brothers and sisters Cathy and Paul Anderson, Jo Bonnie and Dan Levinson, Vincent Nagler, John Nagler, Michael Nagler, Rosanne Nagler and Joseph Mazza, and Christine Nagler.

And finally, my greatest support throughout the entire doctoral process was my loving and beautiful wife Roanne. I wish to acknowledge her love, attention, nurturance, and help. She supported and tolerated me during the entire seven year process that I took to complete my studies. If that were not enough, she also edited this entire dissertation. Her loving contribution to this work and my life is reflected throughout this document.
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CHAPTER I
INTRODUCTION

Jennifer lay on the floor, prostrate. She yelled loudly while banging her head against the floor. "I wish I was dead, I wish I was dead." Her teacher calmly turned to me and said, "She does this every day at about this time; I can't take it anymore. Is there anything you can do to help?"

Jennifer is one of the five children who participated in this study. The participants profiled throughout this dissertation are a group of children in crisis. These children have experienced appalling crises. These crises have brought considerable cruelty and damage into these young lives. The stories told in this dissertation depict the changes the participants experienced as their lives were touched by the process of music therapy. Their music and their therapy have made use of new types of digital music instruments.

To understand what digital music instruments are, one need only imagine the sound-making capabilities they possess. Imagine animated sounds that contain a rainbow of tonal colors. Imagine sounds that are malleable and pliant to redefinition. When I envision the resources available through digital music instruments there appears to be seemingly endless possibilities. Possibilities that extend beyond my musical capabilities. I imagine new and exciting ways to create music--music that can help to bring change in people's lives.

I came to this music early in my life, recalling as an adolescent, being fascinated by the sounds of electronic music. Rock musicians were just starting to explore the possibilities of this new medium. This was the start of a new order in music. Frustrated with the regimen of the piano repertoire, I began experimenting and exploring the sounds and textures of synthesizers in my pre-teens.
Growing to become a performing musician, my interest in the medium continued to unfold. It was thrilling to be a part of something that was developing before my eyes. Circumstances changed and opportunities arose. In addition to being a performing musician, my new profession was now as a music therapist. This led to a split existence. I used the traditional instruments of music therapy by day and the electronic instruments of music performance at night.

It did not seem that the two could coexist. The electronic instruments were too cumbersome, dense, and expensive to use with the children seen daily in therapy. Serendipity arose. New York University had just purchased a then state-of-the-art Fairlight computer music system. There was an opportunity to work on a paid recording project if I could learn the operations of the Fairlight computer music system. Although at the time it was not my first priority, I was also interested in exploring the clinical opportunities of this system.

Within two weeks of my course enrollment on the Fairlight system, a call came to the music therapy office of New York University. The caller, Dr. Mathew Lee, inquired if any music therapist was computer literate enough to work on a computer music system for a disabled musician. This was the start of a long and productive relationship.

That project was successful, and a series of publications resulted (Nagler, 1985; Nagler & Lee, 1987; Nagler & Lee, 1989). I was approached by Music Computers & Software (MCS) Magazine to create and direct a research lab at New York University (NYU) exploring electronic music in the music therapy process. This led to the formation of the NYU/MCS Center for Music and Rehabilitation which I led as a doctoral fellow in 1985. In 1986, I became the program director at the Center for Electronic Music. At the completion of my work at The Center for
Electronic Music, came my position as a computer and music specialist with the New York City Board of Education.

All of these positions allowed me to work directly with children. This direct contact showed me first-hand that change could be brought about through clinical music therapy work. These changes were due, in part, to the fact that children can encounter profound and motivating experiences in music therapy. In this modality of treatment, a child can experience new vistas of awareness. This awareness can lead to powerful self-discovery. Music created through the music therapy process can provide a child with the impetus for self-expression in many areas.

Many clinical reports have demonstrated that enriching therapeutic interventions can be made using traditional musical instruments. The piano, guitar, drums, and hand-held percussion instruments are but a few of the instruments commonly used by music therapists in clinical work. The use of these instruments can provide a clinician with a rich and varied palette of sounds.

Traditional instruments are frequently used in the performance of a broad repertoire of music that encompasses many historical periods. Additionally, music created with traditional instruments can be at the foundation of a vocabulary associated with different periods of music. The popularity of the lute and recorder in the music of the Renaissance and the omnipresence of the piano in the music of the nineteenth century are a few examples of the pairing of instruments and historical eras. The vocabulary created by this music can be integrated into a larger social fabric of cultural awareness.

This cultural awareness (Reisman, 1953) includes the social, economic, and political climates of the time in which it was adopted. A look at our present cultural climate will show that, at times, there appear to be as many different types of music available as there are musicians. The music we choose to enjoy and be a part of
helps to define our identity. This music serves as a window to our inner thoughts and emotions. A term that is descriptive of this view is Heidegger's concept of a lifeworld (1977). Within a lifeworld is all that a person is and all that he or she has experienced.

For many inner-city children, the music that forms their lifeworlds is quite different from the music of the Renaissance or even the middle of the twentieth century. The music that is in their lifeworld is the styles of rap, hip hop, house, metal, pop, and various hybrids of older forms of music from other eras. Inner-city music does not use traditional musical instruments to form its vocabulary. It uses digital music technology.

This music is relevant and important in the lives of these children. It can be used as a window into the lives of children who can be difficult to reach. Yet, in clinical music therapy practice with inner-city children, many of the musical instruments that are available for use in clinical music therapy work are not of the children's everyday life. Traditional instruments are not present in the music many inner-city children enjoy in everyday life. For most inner-city children, this lifeworld consists of music played on electronic instruments such as synthesizers, samplers, and sequencers. These instruments possess unique qualities indigenous to music found in inner-city areas.

Electronic music has timbres, rhythms, and dynamics which can only be produced by digital musical instruments. Therefore, the recording and manipulation of these timbres can only be accomplished electronically. Many of these sounds and timbres are not possible with traditional acoustic instruments. When working with inner-city children, there appears to be another level of musical and therapeutic development that can take place through the use of instruments from within the children's lifeworld.
Most of the music that exists within the children's lifeworld has been produced digitally. This music and its related technology have formed the basis for a revolutionary new genre of music. This revolution has stemmed from the popularization of machines which electronically create music. Digital musical instruments are synthesizers, samplers, and electronic signal processing devices which have changed the way music is perceived, created, and ultimately, experienced. These musical instruments are capable of generating, recording, and playing back sounds and songs in unique and creative ways. Yet, as the literature review will demonstrate, there has not been a comprehensive effort to discern the adequacy or appropriateness of the inclusion of digital music technology in the music therapy process.

This is troubling when you consider that in the last decade, these instruments have inspired a revolution in the manner in which music is created. This revolution appears not to have included many music therapists. Therapists, many of whom appear to be intrigued by digital instruments, have not reported explorations of their use in a clinical setting. Some reasons may be the complexity of using these machines and the difficulty of establishing methods for their use in clinical practice. Another important factor to consider is the high cost of new and relatively unproven technology.

It appears that digital musical instruments can have an impact on the practice of music therapy. There is a need for the identification and implementation of a new class and genre of instruments which can provide the necessary expressive and therapeutic opportunities for both patient and therapist. Digital musical instruments provide the needed link for creating congruence between the music present in the cultural lifeworld of the child and the music presented in the music therapy session.
Digital musical instruments can provide distinct opportunities unlike those offered by traditional instruments. Synthesizer and sampling instruments have a wide range of timbres, and the ability to create many sonic textures simultaneously. Digital music technology possess many of the necessary sonic qualities needed to create new clinical music therapy instruments.

Unfortunately, many of these instruments still appear to contain musical options not available to patients in a clear and concise fashion. Clinical experience illustrates that there are problems associated with many current electronic music technology. Often, to create music, the technology require significant expertise in matters that are not usually associated with music making. This, amassed with the time and effort required to simplify these items to replicate those of traditional instruments, is quite an undertaking; an undertaking that many clinicians have apparently decided to forgo. The digital musical instruments need to appear facile and workable to the therapist, so that the patient will be provided with a creative option.

Integrating digital musical instruments into my clinical practice over the past decade has inspired my own desire to pursue this study. My clinical experiences in music therapy have shown that there is a definite need for additional instruments in clinical practice. I have long been frustrated by many of my musical interactions in music therapy sessions. This frustration has led to the development of new applications of technology. These applications of music technology have grown concurrently with new technical developments in music technology occurring in the last ten years.

As a clinician I have encountered many diverse clinical situations with children who are in crisis. In these encounters I have experienced frustration in my attempts to enter into their lifeworld. Originally I immersed myself in a culture and
genre of music that was different from my own cultural awareness. Missing elements of my music, and therefore my therapeutic intervention, were the ability to offer sounds, rhythms, and means of access to music making that were both familiar and relevant to the cultural worlds that surrounded these children.

I began to discover the relevance of meeting the children at their current level of functioning. The traditional musical instruments I used did not adequately fill the need of providing a musical continuum for therapeutic use. The children were in need of a means of expressing themselves in a culturally appropriate manner. Through the introduction of timbres and electronic musical instruments in the children's life experiences, the therapist is given new tools for application in daily clinical work.

Children often yearn to be expressive in their creations in music therapy. As with any expressive art form, there is a vocabulary. Once the therapist and child can speak on a common ground, the work can take on a new dimension of therapeutic development. The vernacular of these children is often digital, electronically produced music.

The discovery of this vernacular has come about from my clinical work, which has included work with the developmentally disabled, the physically disabled, children in crisis, and neurotic and psychotic adults. The settings for this work have included schools, rehabilitation hospitals, child study centers, psychiatric hospitals, and a prison. My work in music therapy originally began in an attempt to equip musicians with adapted devices that aided in making music, including simple modifications of computer input devices such as simple triggers and switches to replicate many of the computer keyboard's functions. This work also included elaborate modifications to the equipment. These modifications included the implementation of augmentative communications systems that offered
profoundly disabled individuals a means to use a computer to make music. I have also worked on customized computer software and hardware for the creation of music. The work has grown to include research exploring computer assisted techniques of music making that do not require physical contact with a musical instrument.

Recently, the primary focus of my work is children who are in crisis. Children in crisis are defined as those who are experiencing difficulties functioning in the school environment due to conditions that exist within the home environment. Digital music appears to be a relevant and expressive means of music making for a child in crisis. The assumption that these technology can be applied to children in crisis is supported by the results observed in with other patient populations. As my understanding of the technology has grown, I have increased in my understanding of applications of digital music technology for children in crisis. As I applied these technology to the session work with the children, I began to see new ways to reach their needs.

As I worked with the combination of the children and the digital music technology, I realized the power and benefits of this application. I also realized some of the inadequacies of these technology as musical instruments for clinical music therapy work. Often, a child's learning process is impeded by the emotional crisis he is experiencing. There was a disparity between the musical needs of the child in crisis and the capacity of the digital musical instrument. There was no readily available access to the parameters of the devices that would allow a child to create music. These instruments could not allow a person to create music without spending a long period of time mastering the instrument. The digital music technology I encountered differed from traditional instruments. The prerequisite
skills associated with digital music technology appeared to require greater technical facility than working solely with traditional instruments.

In my work with children in crisis, I have found a need for a fundamental investigation of this new genre of instruments. Considering the widespread availability of these instruments and all of the apparent benefits their use will bring, it appears that it is appropriate to conduct an investigation to determine the role that these instruments can play in the music therapy process.

This intent of this introduction was to provide the foundation of my desire to study this topic. My goal for this research is to further define myself as a clinician who uses digital music technology. To do so, I need to gather the necessary data to report, define, analyze, and demonstrate music therapy interventions using digital music technology with children who are in crisis. Achieving this goal requires the exploration of these instruments in a clinical setting.

In order to explore this question, several other questions require discussion. These questions concern the role of the digital music technology themselves as they are included as musical instruments in the process of music therapy. Topics for discussion include: the adaptability of the instruments to the needs of the participants, the benefits of using these instruments, and the enhancements and/or detriments that are present when these instruments are included in clinical music therapy work.

It is hoped this study will redefine my work with children in crisis through the use of this new genre of instruments. This redefinition of my work will be accomplished if this investigation aids in determining the role that these instruments can play in the music therapy process. To this end, the remainder of this dissertation contains statements of my beliefs, feelings, and insights concerning this
process. This document is not only a reflection of what I have done, it also a reflection of who I am as a clinician.
CHAPTER II
RELATED LITERATURE

The Psychology of Children in Crisis

In this study, a child in crisis is defined as a youngster between the ages of eight and thirteen who is experiencing difficulty functioning in a school setting due to conditions present within the home environment. The school setting has determined that these children are in crisis. The child's crises can include: physical, emotional and sexual abuse; loss of a family member or close friend; neglect; or other traumatic incidents. The children's responses to these crises range from a lack of desire or ability to participate in school and social activities, to attempted suicide, eating disorders, and drug abuse. The children in this study all live and go to school in an impoverished inner-city area. Therefore, the problems experienced by these children are often coupled with a host of the problems associated with living in a hostile, inner-city impoverished neighborhood.

A clear definition of child maltreatment was developed by Fontana (1973). He finds that "any treatment by which a child's potential development is retarded or completely suppressed, by mental, emotional or physical suffering is maltreatment." (p. 24)

These children are often labeled with many descriptive titles. A common title that appears in the literature is "mistreated which means that these children have endured frightening, painful experiences such as having been frequently abandoned, beaten, burned, starved, raped or in other ways sexually exploited" (Rosenfeld & Wasserman, 1990, p. 13). These children often respond with asocial
actions, hallmarked by isolating themselves from social interaction outside of their peer group. The National Center on Child Abuse and Neglect Study Findings as reported by Layman (1990) has established three key categories of child abuse and three of neglect. They are physical abuse, sexual abuse, emotional abuse, and physical neglect, educational neglect, and/or emotional neglect. The guidelines have established conditions that must be present in order to legally charge a parent within each of these categories.

The legal definition is not as precise. Laws can vary within states, cities, counties, and jurisdictions. Ambiguity and imprecision abound as do cultural and social norms (Garbarino, Guttman, & Seely, 1986). This is problematic. The children participating in this study cannot be given official help within the school system until they are first made part of a legal proceeding (Starr, Dubowitz, & Bush 1990). An adult within the system must first suspect the abuse, then home contact is required, and then a case must be filed with the legal system.

Intervention and treatment strategies for aiding an abused child are varied (Garbarino, 1990). This study employs a model of short-term, crisis intervention. This model, as differentiated from long-term intervention, has several key advantages. Of most importance is the immediacy of the need of the child. Often, a child who is in crisis is also in transition. The child may be moving to a new location, or may need a process that will give immediate answers and insight to his or her crisis. This type of intervention does not look to resolve all of the issues surrounding the child. Rather, it looks to be supportive and present. "The aim of short-term therapy is not to 'cure' children, but rather to stimulate their internal resources for growth and development and to simultaneously make their environment more responsive to their needs" (Shapiro, 1984).
Long-term intervention is normally required to correct and possibly cure the ravages of the trauma these children experience. Unfortunately, this type of intervention is often not immediately available or sufficient for the needs of these children. Financial constraints in the school system appear to be the primary reason that long-term psychotherapy treatment is not available to these children. It does not appear that long-term intervention is considered a priority for young children. There is a strong likelihood that long-term intervention will not avail itself to these victims until adulthood. This treatment may then be offered to the victims as functional adults through their own resources. For nonfunctional adults, treatment may be available through the auspices of a correctional or rehabilitation agency.

**Unique Therapeutic Issues of the Child in Crisis**

Children who are in crisis have unique therapeutic needs (Shapiro, 1984, Rosenfeld & Wasserman, 1990). Children in crisis carry the burden of their traumas along with the issues that face noncrisis children on an everyday basis. The children who participated in this study were all adolescents aged 10 to 13 years old. Adolescence is traditionally a tumultuous time in a person's life. The literature contains the opinions of several theorists of psychology who possess views on the therapeutic issues of the adolescent. Two of these theorists are Piaget and Erikson.

Brainerd (1978) equates Piaget's fourth and last epoch of cognitive development, the formal operations stage, to one of "trouble and turmoil" (p.202). Erikson (1968) similarly finds that the adolescent period is one strewn with life crises and anxieties concerning identity and autonomy. Piaget's (1967) concerns with the socio-emotional strife commonly associated with adolescence are outweighed by the new found abilities that appear as a result from the maturation associated with this stage. This is significant in viewing the dynamic nature of the
adolescent in this state of emotional flux. When adding the additional concerns of a crisis inducing trauma to the fragile world of an adolescent, a loss of functionality may occur.

Therefore, while it may appear that many of the participant's of this study issues and struggles are familiar to children who do not share their crises. But, in point of fact, the child in crisis lacks the mechanism their unencumbered friends maintain. A key issue unique to the child in crisis is that of loss (Layman, 1990). Children can experience the loss of parent(s), the loss of their identity, the loss of their safety, and ultimately the loss of their home environments.

Creative arts therapists have addressed these unique needs in previous studies. One study of note explored a child's use of art materials as a means of self-expression. In their study, Wohl and Kaufman (1985) found that of the 50 drawings they studied, there were striking similarities. The children exhibited an apparent fear of their environments. Furthermore, the children showed a lack of trust in interpersonal relationships and a distorted sense of reality. The researchers found that the children's "sense of self is poorly defined and their self-esteem is pitifully low" (1985, p. 135).

**Music Psychotherapy**

The therapeutic approach used in the present study defines music therapy as a process based modality of treatment that provides a continuum of contact between patient and therapist in which both parties are involved in an interactive musical dialogue that is designed to facilitate therapeutic growth (Nagler, 1989). Clinical practice of music therapy has different approaches of creating this continuum of contact between patient and therapist. Popular approaches are music
psychotherapy, music in medicine, music therapy in special education, and music therapy as recreation therapy.

In the context of music therapy treatment, Wheeler (1987) postulates three levels of music therapy—music therapy as activity therapy, reeducative therapy, and reconstructive therapy. Reeducative therapy is placed at the second level in this hierarchy of three levels. The participants in this study underwent a form of reeducative music psychotherapy.

The overall role of reeducative music therapy in short-term intervention with children at risk is not clearly defined in the literature. Wheeler defines reeducative music therapy as including a set of five typical goals. She defines these as:

Increased understanding of here-and-now behaviors, explorations and dealing with maladaptive behaviors and attitudes, the achievement of insight into current behavior, the ability to develop and share feelings with others, and, an increase in self-awareness.

The method employed in this study is short-term, reeducative intervention. In this method, I, as the therapist, attempt to guide and provide a form of reeducative music psychotherapy. Music psychotherapy is the application of the art and aesthetic of music making to the process of healing the mind, body and spirit through psychotherapy. This form of psychotherapy has different levels and stages of treatment. The process of music psychotherapy entails an interactive relationship between a patient and a therapist. The goal of music psychotherapy is to address the emotional life of the child in the process of therapy. It appears that the use of music psychotherapy is appropriate in aiding a child who is in crisis towards a healthier state of being.

"Music is an art that offers unique opportunities for human expression, communication and expression. Music psychotherapy can speak to the whole person and offer important possibilities for the treatment of emotional problems" (Hesser, 1992, p.4). The music created in a music therapy session can be a living
and potent entity that can affect change. Its application defines the art of music psychotherapy. My work reflects theories of humanistic psychology. These theories have been adjusted and integrated to create this model of short-term, reeducative treatment intervention. Ruud (1980) in his investigation of the relationship of music therapy to current treatment theories summarized the humanistic and existential perspective. He found that humanistic theory is often grouped with existential theory in what has been referred to as the "third stream of psychology." He states in part, that there are four points which describe humanistic and existential theory. These points are:

1) A centering of attention of the experiencing person, and thus a focus of experience as the primary phenomenon in the study of man, 2) An emphasis on such distinctly human qualities such as choice, creativity, valuation and self realization, 3) An allegiance to meaningfulness in the selection of problems and of research procedures, and an oppositions to a primary emphasis on objectivity at the expense of significance, 4) An ultimate concern with the valuing of dignity, and the worth of man and an interest the development of the potential inherent in every person. (p. 58)

Maslow (1971) in defining his hierarchy of needs towards self-actualization termed this as "the need to be instinctoid." That is, if the basic human needs are not fulfilled, then the human qualities diminish from a lack of gratification. This is the case in victimized children. As their human like qualities diminish, the by-product is the lack of an identity in the face of the crises they encounter daily. Maslow maintains that these impulses towards human like qualities will atrophy with disuse since humans have weak instincts, like urges present in other animals.

Lee (1976), as influenced by Rogers, maintains that the role of the parent is to guide the child. The child is the best judge for the process that will enhance his own growth. The actualizing principle (Rogers, 1980) allows the child to be the ultimate arbiter of the his or her own needs. Yet, when the child is in an environment of uncertainty and harm, how reliable can this navigation be? In the
case of the abusive or neglectful parent, the boundaries set are not healthy for the child. For the child to function in a healthy manner, there is a strong need for nurturance.

Rogers (1980) writes, "The individual in this nurturing climate is free to choose any direction, but actually selects positive and constructive ways. The actualizing tendency is operative in the human being." It is this basic tenet that guides a nondirective approach to the therapeutic process. This allows the child to seek the path toward meeting his or her own needs. The therapist supports, provides boundaries, and nurturance. The agenda is the child's not the therapist's.

Axline (1947) views the nondirective method in play therapy as being based on a positive theory of the individual's abilities. The premise is to meet the child at his or her present level of functioning and allow him or her to develop and flourish from that point. When working with the child in crisis, this is an important consideration. Often, these children are hurt and not trusting. Allowing the openness and nurturance that is available through a nondirective approach is essential to creating a point of contact.

Clinically improvised music therapy is a conceptual framework in which the therapist is providing music as a catalyst to effect a change in the process in a loosely structured fashion. Aigen (1990) has defined this as creative and improvisational methods in which the activities of therapy are "those whose content is determined in a fluid and adaptable manner, guided by the in-the-moment interaction of client, therapist, and music" (p. 5).

Several case studies have explored short-term interventions and touched on aspects of re-educative music therapy. Merle-Fishman and Marcus (1982) studied musical behavior differences in disturbed and normal children. They found, in part, that it was possible to assess differences in what they termed "musical
behaviors." However, the quantitative, statistical profile of the responses proved insignificant and inconclusive in generalizing their findings.

Another study that approaches the concept of re-educative interventions is Haines' (1989) study of the effects of music therapy treatment on emotionally disturbed adolescents. She found a lack of significant differences between what she termed music therapy and verbal therapy groups. Haines found the major failing in the study to be the actual research design. This is significant. Both of these studies were conducted using quantitative research designs. Both of these studies were inconclusive. The literature does not include a definitive study using a quantitative research design when studying children in crisis.

**Qualitative Research Methods**

There are no available studies in the literature that employ qualitative research techniques studying children in crisis. Yet, the recent success of qualitative studies by Kasayka (1991), Forinash (1990), Amir (1991), and Gonzalez (1992) have created what appears to be an emerging trend of music therapists adopting and adapting qualitative research methods.

There are many sources of literature on research techniques of music therapy. Yet, despite their availability, there are limited sources of materials relevant to the subject of clinically improvised, process based music therapy. This may be due in part to what Aigen (1990) refers to as a lack of an indigenous music therapy paradigm. He states, in part:

> Neither behavioral analysis nor the constructs of various psychodynamic therapies—the two predominant paradigms in music therapy suffice in capturing the essence of clinical experience, and therefore they have limitations as research tools. (1990, pg. 5)
Aigen has proposed a new research paradigm for studying the clinical practice of music therapy. Qualitative research allows the researcher the freedom to view data as they emerge. It also allows the researcher to explore the data from the viewpoint of their own paradigm. This will allow the inclusion of the researcher's clinical understanding of the music therapy process.

Qualitative case study research usually begins with a problem identified from practice. The broad questions are raised. Questions about process (why or how something happens) commonly guide case study case research, as do questions of understanding (what happened, why, and how?). (Merriam, 1988, p. 44)

Qualitative research methods employ the naturalistic, qualitative, case study paradigm as described by Merriam (1988) and Ely et al. (1991). This includes the model of researcher as instrument which can be employed to gather the data. Therefore, the researcher is an active participant in the music making and verbal processes.

It is through this active participation in the music making process that a new clinical understanding will ensue. As this understanding develops, the researcher is able to draw conclusions and create a foundation for a theory. This is a significant and necessary stage in the evolution of a research paradigm.

As members of a new and emerging field, music therapists are in need of grounded theories that have arisen from clinical practice. These theories will aid in the development of understanding of the clinical practice of music therapy. These theories will also lead towards richer and clearer reporting of the process of music therapy. Amir (1991), recognizing this postulate, formed a music therapy study that employed grounded theory procedures and techniques (Glasser & Strauss, 1987, Strauss & Corbin, 1990).
The Use of Music Technology in Clinical Music Therapy

The application of music and technology in the music therapy is not a new idea. The literature suggests that there are a myriad of applications of music and nondigital technology in the music therapy. Many patients have undergone successful treatment while attaining the ability to create music with the aid of adaptive devices. These devices include modifications of instruments and objects used to play instruments.

This problem has been addressed in the past by clinicians adapting clinical instruments and tools to meet the patients' needs. An example of this is evident in the work of Clark & Chadwick (1980) who demonstrated clever and simple applications of technology to modify traditional instruments such as guitars, pianos, bells, horns, drums, drum beaters, and autoharps. Their work has provided the music therapy community with a new viewpoint using musical instruments which had long served clinicians.

The Clark & Chadwick sourcebook represents the contributions of 26 different clinicians, each demonstrating a modification to an existing musical instrument that rendered the instrument more musically expressive to the patients. This compendium of instrument modifications was gathered from working clinicians. One effective example of a modification is molding a new rubber grip around the handle of a drum beater to facilitate better beating by a patient physically unable to beat the drum without the grip. The primary contribution of this compendium is in the simplicity and elegance of the modifications. These modifications provide clinicians and patients alike with new musical opportunities.

A more recent example of technological adaptations is cited in a study that explored the options of music creation for people with upper limb amputations.
(Edelstien, 1987). Again, simple modifications of instruments allowed patients with upper limb amputations access to musical expression.

Studies in adapting analog and digital technology for use in music therapy have been reported in the music therapy literature on a regular basis. The reports describe clinicians employing computers to code and record behaviors during music therapy sessions. Applications have been reported by Greenfield (1985), Gregory & Sims (1987), Krout & Mason (1988), and Hunter (1989). In these studies, databases were established and the computer was used as a research tool, not for the purpose of creating music.

**Technology and Instruction**

The use of computer assisted instruction (CAI) as a tool was studied by Gregory (1989). In this study, Gregory established five categories of applications of CAI which she envisioned as a means for applying this technology to the education of music therapists. However, her categories and even her predictions for future use of computer technology and CAI do not envision the use of the computer as a tool in the music therapy process.

Eagle (1986) has conducted research to create methods and techniques of interfacing computer technology without music components for clinical work. He has created a computerized database system to research relevant literature in music medicine, rehabilitation psychiatry, and psychology.

**Digital Music Technology and Music Therapy**

Several clinicians have tried to use digital music instruments as sound-producing devices in the music therapy process. The digital technology employed were used exclusively to create music. These attempts include the work of
Osguthorpe & Ditson (1985), Fegers & Moog (1989) Fegers, Fricke, Minkenberg & Moog (1989), Fitzwillen (1988), Skille, Wigram & Weekes (1989), and Spitzer (1989). All of these studies attempt the use of computer music technology either to teach music or include the computer in music therapy session work. In none of the cited studies was digital music technology used as an instrument for clinical improvisation.

The majority of these studies sought to use digital music technology as part of the music education process. The technology was used primarily as a means to increase the level of task performance. This was done as part of the patient's physical rehabilitation process. It did so with regard to the use of musical performance to increase functionality and ability.

Nagler (1986) and then Nagler & Lee (1989), sought to use computer music technology as a tool in the music therapy process. These investigations did illustrate the inclusion of these tools in the music therapy process, but did so in a limited and case specific fashion.

In these studies, a quadriperetic musician with locked-in-brain syndrome was outfitted with two different digital music technology systems. Locked-in-brain syndrome occurs when the patient's body ceases to function. Yet, his cognitive functioning was unimpaired. The patient in these studies was encouraged to create music with digital music technology. The primary focus of these studies was to document the efficacy of these adaptations of the digital music technology with regard to the rehabilitation process of this patient.

The Need for Technology in Clinical Music Therapy

Krout (1987a, 1987b, 1988a, 1988b, 1989) and Obara (1985) have studied the need for technology in clinical music therapy. Obara began this line of inquiry
in investigating the use of computers in music therapy by surveying music therapists through a questionnaire circulated to college music therapy training programs.

Krout (1988a) continued this line of investigation in his doctoral dissertation by discussing microcomputer applications in music therapy training. In a later article, Krout (1988b) compared the findings of his study to the Obara study. He concluded that Obara's study on clinical uses implied "Almost all respondents (93% of the total) indicated that they would like more information on microcomputer applications in music therapy for use in core courses." While Krout's survey on educational training found "findings similar to those reported by Obara in 1986, it is interesting that Obara's focus on clinical applications and the present focus on teaching applications are so closely related in terms of responses" (1989, p. 5).

The applications of digital music technology in both surveys differ from the applications of music therapy presented in this study. Krout's and Obara's studies point to the need to study this work and serve to illustrate this need. Yet, there appear to have been few attempts at using these new instruments as part of the clinical music therapy process. As Krout (1988a) found in his survey, therapists have expressed a need for these tools, yet, very few have actually utilized digital music technology in clinical music therapy work.

Salmon and Newmark (1990), a physician and a psychologist, created a scale that uses Musical Instrument Digital Interface (MIDI) data as an assessment tool of musical performance. In this study, the researchers found that MIDI technology can provide a reliable source of data in assessing keyboard motor skills. The use of MIDI data has several important attributes.

The MIDI system offers four clear advantages as a data collection and processing system. First, it is capable of recording timing information with a high level of resolution. Second, it can record data pertaining to multiple variables, including timing pitch and key velocity. Third, it can record data
concerning a wide range of motor skills, ranging from finger tapping to performances of large scale compositions. Finally, it offers flexible feedback of performance data, with options that include live playback, score transcription, and statistical analysis. (Salmon & Newmark, 1989, p. 30)

A recent report by Krout (1992) shows a move toward this trend. The topic of this article is the use of software and hardware applications in music therapy clinical interventions. Additionally, Krout has now published several articles focusing exclusively on integrating technology into music therapy practice. The reports in the literature serve to document the need for the inclusion of digital music technology in the music therapy process. The impact of these reports are significant since they serve to validate the need for the introduction of this new technology into general music therapy practice. Additionally, they suggest that clinicians are seeking new tools for clinical music therapy work.
CHAPTER III
DIGITAL MUSIC TECHNOLOGY USED IN THIS STUDY

Digital music technology are electronic devices which in recent years have been developed into musical instruments. All of the technology used in this research project are exclusively digital music devices. All of the music that was produced, recorded, listened to, and, ultimately studied in this research was generated without the use of acoustic instruments. This was an intentional choice on my part. I chose to use digital music instruments to take advantage of the rich sound making capabilities, and music making options that digital music technology has to offer.

Music is a series of sounds and silences moving through space and time, to which the listener ascribes an aesthetic experience. The sounds have definite pitch, rhythm, harmonies, and dynamics. When these sounds are constructed together in a manner that is recognizable to a listener, the sounds can be perceived as a musical composition. Music has many qualities and characteristics that do not allow easy definition or categorization. Complexities of timbre, harmonic, melodic, rhythmic, and dynamic structures work conjointly to produce the rich and somewhat intangible experience we call music.

Music can be produced through a variety of means. Striking a drum or plucking a string will produce a tone that can be converted into music. Music can also be created through electronic means. Digital music technology now play an important role in the way music is created. The introduction of digital music technology into the music making process has caused changes in the manner in
which music is created. The changes that have occurred have altered the way musical instruments are played and even manufactured.

Digital music technology, and more specifically, computers, are now an integral part of not only the manufacture of these instruments, but a major part of their sound making capabilities. The sounds are created as a result of a series of mathematical calculations performed by a series of discrete and logical steps encoded in the system's software. Computers can also play a role in the manner in which these devices perform the music. The computer can be programmed to sequence a series of musical events. These events can be performed either by the computer itself or interactively with a human being.

The core of what differentiates digital music instruments from acoustic instruments, is that digital musical instruments can theoretically create sound without the physical displacement of air (Massey, 1988). While the methods of sound production of digital music instruments are vastly different from acoustic instruments, the end result of sound production are not. Therefore, this distinction between digital music instruments and acoustic instruments is a theoretical consideration and not a pragmatic one. In reality, a sound is a sound, and no matter how it is produced, there will be the displacement of air in order for the sound to be perceived and ultimately used in a musical context.

Sound is virtually inescapable; in the current environment music is everywhere. Yet sound's fundamental nature is largely unfamiliar; and sound organized as music. Vibrations of air partaking the invisible is rather mysterious. (Cogan & Escot, 1976, p. 2)

Anderton (1984) describes the differences of acoustic and digital musical instruments as:

What we hear as "sound" is actually minute fluctuations in air pressure which interact with our hearing mechanism. The information received by our ears is passed along to the brain which processes the information. However, while the physically vibrating parts in acoustic instruments
directly generate changes in air pressure which we hear as sound, electronic instruments create sound only indirectly. (p. 23)

Acoustic instruments create sound through vibrations that directly move air. The vibrations are created by someone hitting, plucking, bowing, blowing into, or strumming an acoustic musical instrument. Similarly, digital music technology also require someone hitting, plucking, bowing, blowing into, or strumming a digital musical instrument. The main difference is the necessity of the addition of a transducer to the signal chain in order to produce the vibrations that will in turn displace air and create sound. Simply put, if the instrument needs to be plugged into an electrical outlet to create sound, it probably is not an acoustic instrument.

Rationale for Digital Music Technology in Clinical Music Therapy Work

I have chosen to use digital music technology in clinical music therapy work because of frustrations I encountered in musical interactions with patients. The improvised music created with traditional instruments in clinical practice often suffers from a lack of continuity. Often, I need to provide assistance to the patient in order for him to create music. In doing so, I needed to stop playing either the guitar or piano to provide this assistance. When these instances have occurred, the continuity in the music is disrupted and the flow of the session is altered.

Another source of frustration I have encountered in clinical music therapy practice is the relatively small palette of sonic timbres that are readily available to the patients in music therapy sessions. Digital music technology address both these needs by allowing me instruments that offer a wide range of timbres that can be sequenced for continuity. Additionally, there is the potential to alter the digital music instruments in a manner so that patients do not require hand over hand assistance to make music. Unfortunately, this potential has not been fully developed.
While prices have diminished and capabilities have increased at an rapid pace, most equipment remains dense and hard to work with in clinical music therapy. To those who have not mastered the entry skills required to create music, this technology is a mixed blessing. At times, the benefits of these seemingly abundant musical capabilities are difficult for a therapist to rationalize. Especially when he or she experiences many of the common problems incurred while trying to create music with MIDI technology.

Perhaps the most vocal critic of the frustrations associated with MIDI technology is composer and synthesist Wendy Carlos. In describing the technology used in the creation of a recent recording, Carlos summed up the state of the art.

"Things really explode in creative new ways every few days, just to drive you crazier. Much of my job is wasted on things like that; maybe a good third of it was down the toilet because the technology is hell. There's a constant improvisation that was actually a rather creative part of working on this project. Nothing really worked right from the top, so you had to devise the mini inventions to solve problems. Part of the fun was coming up with clever ways of making something come together, or interesting ways to use the equipment. (Milano, 1992, pg. 92)"

The use of technology to create music is not a new concept. Technology and music making have been linked throughout history. The craftsmen who worked with wood, steel, and metal to create prior generations of instruments have been supplemented by new technologists working with different materials. The main difference in the instruments created by these new craftsmen is evident in the changes that have occurred in the techniques necessary to play an instrument. There has been a fundamental shift away from an instrument's specific playing technique that is normally associated with a timbre (Kurzweil, 1990). No longer does a musician need to master the mechanical techniques of an instrument in order to play a musical timbre. For example, a synthesist can approximate both the
timbre and playing technique of a flute without ever learning the original instrument.

Traditionally, music performance has often depended on nearly superhuman feats of finger acrobatics. While technical playing skills are still being used by virtuosos, absence of such skills no longer represents a barrier to the creation of music....In this way, music can be created that would be impossible to perform in real-time. (Kurzweil, 1990, p. 353)

How close a synthetic approximation of a timbre is to the traditional instrument is quite debatable. But, to many, musically usable sounds can be produced through the use of digital music technology.

When these technology are paired with alternate and adaptive means of controlling a sound, new horizons for music making arise. These new means of creating music relate directly to clinical music therapy applications. No longer must a piano timbre be played from a piano style keyboard. A drum pad, wind controller, guitar, or even the electricity present in the human body (Knapp & Lusted, 1990) can be used to trigger a multitude of timbres and musical events.

**Applications of Digital Music Technology Used in This Study**

Digital music technology were employed to create the music that both therapist and child experienced in the therapeutic process. In this project, these digital instruments were used to imitate and enhance the features of acoustic musical instruments. On a limited basis, the technology was also used to create alternate "synthetic" sounds.

The three sound generating devices used in this project, the Yamaha QY-10 Music Sequencer (QY-10), the Proteus One Sound Module (Proteus One) and the Casio PMP 300 Keyboard (Casio), employed digital sampling technology. Digital musical instruments generate sound by coding the variations and fluctuations in musical sounds into binary digits (Massey, Noyes, & Shklair, 1987). Digital audio
sampling is the equivalent of a digital audio "snapshot" of a sound and may be thought of as digital recording. This representation of a sound can be digitized and reproduced via microprocessor computer devices. When digital audio sampling is combined with synthesis techniques, a unique and rich spectrum of sounds are available for clinical use.

In this project, relatively inexpensive sound producing devices were used; each retailed for less than $700.00. The rationale for this limitation is that the use of "high end" devices would serve financially to exclude many therapists from investigating this technology. The intent of this project is to investigate and report to the music therapy community, applications of a new generation of instruments that have not been studied.

Consequently, the audio quality of the instruments was not consistent from instrument to instrument. Audio quality can be judged by the resolution or ability to reproduce sound in a clear and distortion-free manner. The resolution and fidelity of the Proteus One is superior to the resolution of the QY-10 and the Casio. The Proteus One features a 16 bit resolution. The QY-10 and the Casio do not. It is difficult to gauge the resolution of either product. Neither manufacturer offers specifications of their product's audio resolution. While the audio quality of both the QY-10 and the Casio are inferior to the Proteus, both devices' audio outputs are clear and musically useful.

Some of the music that was created in this study made use of the Musical Instrument Digital Interface (MIDI) technology. MIDI technology is a serial protocol that allows any grouping of computers, synthesizers, samplers, and digital signal processors (from here on referred to as devices) from different manufacturers to share data. These devices communicate through a standardized computer
interface, which allows serial data transmission between micro-processor controlled devices of different purpose and manufacturing origin.

The connection of a MIDI device to another MIDI device is accomplished by connecting one or more MIDI ports of a device to either the In, Out, or Thru ports of another device or group of devices' MIDI ports. In essence, a chain is formed. This is analogous to a multi-party phone conversation. All of the parties are able to communicate with one another. The Musical Instrument Digital Interface specification (1983) allows for 16 channels of simultaneous data to operate. This connection between devices, in theory, allows for real time performance and control of the chained system's parameters.

The MIDI protocol makes provisions that affect the expression, intimacy, and timing of control properties and musical gestures. Subtle musical phrasings and nuances are difficult to create using MIDI sequencers. I have found that time, practice, and experience are necessary even with the best technological innovations in order to make music.

Many different configurations of digital music technology are available. Many other configurations are equally valid and musically useful. For this study, a system was assembled to use in the sessions with the children. The digital music technology used in this study are:

1. A Roland Octapad drum pad set,
2. A Shure SM-58 Microphone,
3. A Sony Stereo Cassette Recorder and Walkman,
4. An Apple MIDI interface
5. An Emu Proteus One Synthesizer MIDI Sound Module,
6. Macintosh Classic and LC Computers,
7. Microsoft's Word 5.0 Word Processing Software,
8. Opcode System's Max Programming Language,
9. Opcode System's Vision Sequencing Software,
10. Passport's Encore Transcription Software,
11. Six Yamaha QY-10 music sequencers,
12. Two Casio PMP 300 keyboards, and
13. Two Yamaha MS 202 amplified speakers.

The QY-10, Casio, Proteus One, and the Octapad are all MIDI devices. The MIDI devices were connected to the In and Out ports of a Mark of the Unicorn MIDI Timepiece Interface. The MIDI wiring used in the music therapy sessions is illustrated in Diagram 1.

The MIDI Time Piece Interface was connected to both the printer and modem ports of the Macintosh LC computer. The modem port of a Macintosh Classic computer was connected to an Apple MIDI interface. The MIDI In port of the Macintosh Classic computer was connected to a MIDI Out of the Mark of the Unicorn MIDI Timepiece Interface. This connection was made so that the MIDI events of the session could be recorded in their entirety.

All of the audio output signals from the QY-10 and the Proteus One were sent directly to the inputs on the amplified MS 202 speakers. The Casio Keyboards contain internal speakers, thus, no additional amplification was necessary.

Six QY-10 music sequencers were used in this study. This device was chosen because of its wealth of musical possibilities and low cost. This device is a battery-driven portable unit that possesses the ability to create synthesized timbres, record and sequence these timbres, provide pre-recorded and sequenced musical and rhythmic excerpts for inclusion in musical compositions, and the ability to play back these sounds over headphones or speakers.
Figure 1
MIDI Wiring Diagram

MACINTOSH LC COMPUTER

MIDI Time Piece—Modem
1. Proteus/1
2. Casio PMP 300 1
3. Casio PMP 300 2
4. Roland Octapad
5. Yamaha QY 10

MIDI Time Piece—Printer
1. Macintosh Classic Computer
The dimensions of the QY-10 are 7.5” x 4” x .5” and it weighs approximately one pound with the batteries inserted. The retail selling price for this device is $400.00. The Yamaha Music Corporation of America donated five of these devices for use in this study. The children were given their QY-10s for the duration of the study. The children were encouraged to work with the QY-10 both in and out of the sessions.

The children were given the QY-10 units to take home with them for two reasons. The first was to provide musical continuity, both in and out of the session. In short-term interventions, some of the therapeutic process continues outside of the session. If a child was in the middle of a song writing process, he or she was encouraged to continue working on this song with the QY-10 outside of the session. The second reason a child received a QY-10 was to allow every opportunity to familiarize him or herself with the workings of the unit.

The Casio PMP 300 Keyboard is a synthesizer unit that has 61 full size piano type keys that control a PCM sound producing processor. There are 32 timbres that can be selected for creating music from the keyboard. Additionally, there are 16 preset rhythms patterns that can be selected from a series of buttons labeled with the patterns’ rhythmic style. There is also a rudimentary sequencer that provides preset harmonic accompaniment that plays back in real time. The Casio PMP 300 has MIDI In and Out ports, a headphone jack, and a three inch built-in speaker.

The Emu Proteus One Synthesizer MIDI sound module (Proteus One) is a MIDI device that was designed to be used in conjunction with other MIDI devices. The Proteus One does not have a keyboard or any other input configuration other than two knobs on the unit’s front panel. The Proteus One is housed in a single
rack space unit. The Proteus One can create 16 independent timbres simultaneously with a maximum of a 32 note polyphony. The Proteus One has a large library of 196 sampled timbres derived from the Emu Emulator sampling synthesizer library which can be edited and reconfigured. The Proteus One has MIDI In, Out, and Thru ports, and four separate audio outputs.

The Roland Octapad (Octapad) drum pad set is a MIDI device that allows the user to create MIDI data by striking a series of eight rubber pads. Data which are first digital information, are created by striking these pads are then sent via MIDI to a receiving MIDI device which is then used to create a sound. The Octapad has the option of creating four preset scenarios labeled a, b, c, and d. The settings used in this study are listed in Table 1. Each setting allows the user to control the MIDI note number, the MIDI channel, and sensitivity for each of the eight pads. The settings are stored in a battery backed memory and can be called up at the touch of a button. Due to the complexity of altering the settings, the children were not encouraged to alter the settings of the Octapad in the course of the sessions. The Octapad has MIDI In and Out ports. The Octapad used in this study was mounted on a stand that allowed the user to custom set the angle of the pad to his or her preferences.

As Diagram 2 demonstrates, each MIDI Note Number has a correlate available on a piano style key board. If MIDI Note Number 60 equals middle C, then two octaves below middle C equals MIDI Note Number 36. Conversely, two octaves above middle C equals MIDI Note Number 84. This relationship is true of most MIDI systems.
Table 1
Octapad Settings

<table>
<thead>
<tr>
<th>Setting $a$</th>
<th>Setting $b$</th>
<th>Setting $c$</th>
<th>Setting $d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designed for:</td>
<td>Designed for:</td>
<td>Designed for:</td>
<td>Designed for:</td>
</tr>
<tr>
<td>Rock Drums/</td>
<td>Rock Drums/</td>
<td>E b Major</td>
<td>C Major</td>
</tr>
<tr>
<td>Proteus One</td>
<td>QY-10</td>
<td>Pentatonic Scale</td>
<td>Pentatonic Scale</td>
</tr>
<tr>
<td>Curve: 5</td>
<td>Curve: 3</td>
<td>Curve: 3</td>
<td>Curve: 4</td>
</tr>
<tr>
<td>MIDI Note Numbers</td>
<td>MIDI Note Numbers</td>
<td>MIDI Note Numbers</td>
<td>MIDI Note Numbers</td>
</tr>
<tr>
<td>Pad 1 44</td>
<td>Pad 1 49</td>
<td>Pad 1 36</td>
<td>Pad 1 51</td>
</tr>
<tr>
<td>Pad 2 42</td>
<td>Pad 2 51</td>
<td>Pad 2 38</td>
<td>Pad 2 54</td>
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<tr>
<td>Pad 3 72</td>
<td>Pad 3 54</td>
<td>Pad 3 48</td>
<td>Pad 3 56</td>
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<td>Pad 4 67</td>
<td>Pad 4 56</td>
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<td>Pad 5 43</td>
<td>Pad 5 58</td>
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<td>Pad 8 70</td>
<td>Pad 8 66</td>
<td>Pad 8 72</td>
<td>Pad 8 68</td>
</tr>
</tbody>
</table>
Figure 2
MIDI Note Numbers
On each setting on the Octapad, each of the eight pads has a correlate in MIDI Note Numbers on a piano style keyboard. For example, in setting a, pad 2 had MIDI Note Number 42 assigned. This setting was designed for use with the Proteus One using sound 14, Rock Drums. MIDI Note Number 42 on this instrument corresponds to a Bass or Kick drum sound. Therefore, if the Octapad sent MIDI data to the Proteus One, and the Proteus One was set to instrument 14, every time pad 2 was struck, a bass drum sounded.

For settings c and d, there were no specific instruments or sounds assigned to the setting. Although, it should be noted, that I have found that tuned percussive sounds such as marimba, or vibraphone worked best with these settings. Non percussive sounds that have a short decay time do not trigger well from the pads. This is attributable to the sharpness of the onset of the note on information that is created via the striking of the stick to the pad. Sounds that have a long attack setting do not trigger quickly enough to sound fully. By the same token, sounds that have a short decay are not allowed to resonate long enough to fully sound.

The Mark of the Unicorn MIDI Time Piece (MIDI Time Piece) is a MIDI interface device designed to allow the Macintosh computer the ability to communicate with MIDI devices. The MIDI Time Piece has eight separate and autonomous MIDI channels that can be configured by the user to allow up to 128 simultaneous MIDI channels with the appropriate sequencing software. The Apple Computer MIDI Interface also allows the Macintosh computer the ability to communicate with MIDI devices. It is a device that has one MIDI In port and one MIDI Out port. The Apple MIDI Interface allows for data transmission over 16 simultaneous MIDI channels.

Opcode Systems Vision (Version 1.3.2) sequencing software was used in this study to sequence the MIDI data as it was created in the sessions. Opcode
Systems MAX (Version 2.0.1) is an interactive graphic programming environment that was used by me to create a patcher to alter the pad settings on the Octapad. Passport Software's Encore (Version 2.5.1) music transcription software was utilized to transcribe the Vision sequences into standard music notation. Both the Macintosh Classic and LC computers used in this study were configured to have four megabytes of RAM memory and a 40 megabyte internal hard disks. System software 7.0 was used as the operating system.
Figure 3

Equipment Configuration in the Music Therapy Room
CHAPTER IV

METHOD

Introduction to Method

The Setting

I conducted research on music therapy interventions with children who are in crisis using digital music technology at a public elementary school, the school is part of the New York City Board of Education system. Each of the five participants received 6, thirty minute sessions. It is located in a troubled inner-city setting. Most of the students in this school function at or below grade level. There is a large population of special education students.

The school has an enrollment of 600 students. The students' ethnicities include Caucasian, Hispanic, Asian, and African American. The majority of the students are Caucasian. A large segment of this population is composed of new immigrants from Eastern Europe. The other large segment are children of the special education program. These children come via school bus from several areas that are truly impoverished.

I had access to a rich population of children that were in need of therapeutic intervention. I knew many of the children; I interacted with them on a daily basis as a faculty member of the school. At first I felt that this may be viewed as problematic. I was concerned with comprising my role as therapist with the participants. Taylor (1992) addresses this issue of being a known investigator serving different roles in the setting in area while working with children. He concludes that being a known entity carries several disadvantages, there are the
advantages of access to a population in which there is an on-going process transpiring.

I felt that if my status was clear and purposeful that duality of my roles could be addressed and used to enhance the therapeutic process. This status allowed me full access to all of the clinical, education, and support staff who served these children. Many of the staff members were eager to assist me in finding children to participate in this study. Many of the children were in need of a person they could turn to assist them in understanding their tumultuous world.

The music therapy room is actually part of a large classroom. During the music therapy sessions, classes did not use this room. The dimensions of this room are approximately forty feet long by twenty-five feet wide. In an attempt to create a more intimate and workable environment, I arranged the equipment in a semi-circle in the southwest corner of the room. I placed all the equipment on furniture with wheels. This was done to help facilitate changes in the equipment set-up desired by each child.

At the beginning of each session, the equipment was situated as detailed in Diagram 3. The participants were free to change the configuration of the equipment at any time during the session.

**The Therapeutic Intervention**

The method used in the therapeutic interventions of this study are a modification of the nondirective methods first developed by Rogers. In short-term interventions with children in crisis, my prior clinical experience has demonstrated the need for directions, limit setting, suggestions and even the posing of leading questions at infrequent points in the facilitation of the child's therapeutic process. While the basic tenet of Roger's (1971) unconditional positive regard was adhered
to and held in my awareness as the therapist, there was the need for directive interventions. The intent of these interventions is not to induce compliance nor to invoke a furthering of the Roger's (1971) concept of conditional positive regard. Conversely, these interventions are made with the intent of aiding in the patient in their definition of the self and affirming the ability of the patient to strive towards their potential.

The following demonstrates some of the hallmark characteristics that are evident in this modified nondirective approach. In the flow of a "typical" therapeutic encounter, the child is invited into the music therapy room. It is the child's prerogative to participate in the session. I allow the child to dictate the flow of the session and I follow the child's lead. The child is free to create and work in the session following his or her own path. I will structure the session by directing at times, the therapeutic focus towards the goals I have defined for the child.

Another hallmark of this approach is evident in the use of interactive musical activities. At times these activities are used to either direct a child to or from music making as I feel is appropriate for the therapeutic intervention. I work towards meeting the needs of the child at his or her present level of functioning. After contact is made with the child, the level of interaction is guided towards the therapeutic agenda that is determined for the child. This is done as a gradual process as trust develops in the relationship. For some of the children, the trust is implicit from prior contact and interactions. For others, it developed as the sessions progressed.

**Presession**

Prior to a music therapy session, I arranged the instruments as detailed in Diagram 3. After I arranged the equipment, I set up the musical instruments and the
adjunctive equipment that was necessary to operate each instrument in as simple a fashion as possible. This was done in an effort to facilitate more interaction in the music making process and less in the process of manipulating the instruments. The child was free at any given time in the session to reconfigure these instruments to meet his or her needs.

The Session

As the child entered the music therapy room, he or she is invited to join me in playing music. During the initial session, I introduced the child to the set up of the musical instruments in the room by demonstrating each instrument. Based on the child's musical interests, he was encouraged to select instruments from the set up for his use. Before we began our music making, there were several routines I generally initiated. The first was a greeting and informal conversation to set a colloquial and friendly tone for the session. I inquired about and then discussed events in the child's life, trying to focus on the child's school setting to keep the session focused towards the present time. If the therapeutic process focused on the home environment, I inquired about events from the child's home life.

Generally, this time was used to assess the child's state of being. This time served as my assessment of the child's needs for treatment in music therapy. Additionally, this conversation allowed me to see how the child was and what his emotional state of being was at the current moment. This time also gave me information often used later in the session. On the basis of the information gathered in the initial part of the session, I then decided what next to suggest to the child. If the child was open to interaction, I moved on to a review of previous sessions. This normally entailed discussing the issues and events of previous sessions. This discussion ensued for two reasons. The first was to confirm that my recollections
and understanding of the session was accurate. The second was to reinforce therapeutic gains and issues that arose in earlier sessions.

Generally, when a child was not interested in talking or was resistant to any interaction, I waited and then suggested other activities. This normally entailed suggesting a music making activity to the child. If the child resisted these suggestions, I often allowed the session to become silent, not directing or suggesting an activity. I waited for the child to act, and then worked with the expressed action or idea.

The reason I waited for the child to act was to objectify the clinical picture presented. The child's actions allowed me to establish a true indication of the child's needs without my interpreting these needs for him or her. This was a primary benefit of a child centered approach. I relied less on my interpretation of the child and focused more on the child's actions. This observation showed me a clinical picture of the child as he or she was in the moment. By allowing the child's own statement of his or her needs to emerge, an accurate and honest view of that child in that moment was given. If this view was not available, my subjective observations would encompass the entire mechanism available for assessing the child's clinical needs.

The next segment of a session can include music making. If the child decided to engage in a musical activity, I tried to suggest and direct the activity towards the goal areas I had set for the session. If the child spontaneously selected a musical instrument, we worked with that instrument. If the child did not select an instrument, I then suggested one to the child. If the child initiated an improvisation, I would attempt to interact with him or her musically.
Postsession

After the session ended, I wrote a session note about the events that transpired. If any MIDI data was created, I saved the data to both the hard disk and a 3.5" high density floppy diskette. The data was then transcribed and reviewed in music notation form. This was done to ensure musical continuity from session to session. It also provided a powerful clinical tool in detailing the specific musical events of the session.

Grounded Theory Research Method

This study employs a qualitative research method. The method is based on the grounded theory procedures and techniques (Glasser & Strauss, 1967; Strauss, 1987; and Strauss & Corbin, 1990). Strauss and Corbin (1990) describe a grounded theory as:

A grounded theory is one that is inductively derived from the study of the phenomenon it represents....One does not begin with a theory and then prove it. Rather, one begins with an area of study and what is relevant is allowed to emerge. (pg. 23)

Their definition illustrates the foundation of how grounded theories are formed. The theory is based on the phenomenon itself. That is, something exists and does something. The grounding for the theory is provided by asking questions concerning the existence and reasons for the operation of a phenomena. Inductive questions are formed, asked, and answered. These questions provide the grounding for a conceptual framework that allows a theory to emerge from the data.

This method of research is also labeled constant comparative analysis. Stern (1985) describes the rationale behind this name "because every datum is compared with every other datum rather than comparing totals of indices. As coded data are compared patterns and categories take shape" (p. 155). The use of the
constant comparison method allows for the interpretation of data during both the data collection and data analysis segments of a study.

I have selected to employ a grounded theory method of analysis because of the nature of the data gathered in this study. There were many numbers used by the participants of this study. The numbers were present in the form of the identifying characters that denoted items such as preset patterns on the QY-10, pad numbers on the Octapad, and MIDI note numbers shown on the sequencing software. These numbers comprised that data that can be viewed quantitatively. This data were derived from the computer and MIDI instruments I used in this study. Since there were many numbers in the data along with the anecdotal records, I required a design that would allow me to view the data in their entirety. That is, encompassing the numbers along with the words and emotions to provide a complete view of the data. Reduction to the statistical end points associated with the quantitative model would not allow the richness and totality of the children's experiences to come forth. This reduction would alter the findings to the point that they would no longer serve as a representation of the children's experiences.

My decision to employ a qualitative research method of analysis has required considerable time, effort, and study to implement in a productive manner. This is partially attributable to the uncertainty of the design and procedure employed as the study was developing. This due to the nature of the method. "Naturalistic studies are virtually impossible to design in any definitive way before the study is actually undertaken" (Lincoln & Guba, 1985, p. 187).

I have found this qualitative method the most conducive and productive for this study. This is due in part to the means for data analysis. Analysis using qualitative methods allows categories to emerge. A taxonomy of categories and the
related subcategories is formed. Ely et al, in describing a qualitative method of analysis as influenced by Glasser and Strauss states:

Creating categories triggers the construction of a conceptual scheme that suits the data. This scheme helps a researcher to ask questions, to compare across data, to change or drop categories, and to make a hierarchical order of them. At its most useful, the process of establishing categories is a very close, intense conversation between a researcher and the data that has implications for on going method, descriptive reporting, and theory building. (1991, p. 87)

Therefore, the data were analyzed to determine if the children's music created using digital music technology was appropriate for addressing their issues. Any and all themes that arose were analyzed through the establishment of categories. The analyses that were conducted followed grounded theory method's procedures of open, axial, and selective codings.

The purpose of coding the data in these stages was to pare down and refine the data while allowing the data to emerge into a cogent form. After this, the categories were formulated into a preliminary taxonomy. After final analysis of the data, the taxonomy was reviewed in an attempt to locate any emerging trends. These trends were then placed into a separate and final taxonomy.

In this study, I as the researcher, was used as the primary instrument for data gathering and analysis. Amir (1991) as influenced by Bodgan and Bilken (1982) cites this concept of the researcher as key along with four other common characteristics of qualitative research. Taylor (1992) also cites this technique in his work in the use of drama structure in education. I have found the concepts elicited in this treatment valid and informative to the process of unfolding the meanings within the data.

The grounding that emerged from the data for a conceptual framework is expressed in the presentation of the data in several forms. One of these forms is the use of personal constructs to create a profile of each of the participants based on my
analysis of the data. The other form in which the data are presented is through the discussion of the session transcripts in relation to the grounded theories.

**Stance of the Researcher**

My interest in studying the participants of this study is grounded in my belief that this endeavor can contribute to the body of knowledge in clinical music therapy. Digital music technology instruments are virtually omni-present in the children's lives. These instruments in the therapy process can be a powerful force of change in these fragile lives.

Monitoring my biases throughout this process was of great concern to me. The trustworthiness of this study depended on my ability to be as accurate an instrument for reporting as possible. I found myself constantly reflecting on my motivations, expectations, preferences, and personal agendas as they came to my awareness. The bias I held throughout the study was my use of only digital music instruments. I did not offer acoustic instruments for the participants to use in session. As I identified this and other related issues, I monitored their impact and presence in the data collection and data analysis. I sought the support and input of peers and mentors in discussing these issues in an attempt to neutralize or at the very least, acknowledge these biases. The membership of the support group I belonged to consisted of four doctoral candidates in music therapy. Issues related to the research process were discussed openly. I participated in this group throughout this entire research process. My membership in this group was essential to this research process. My participation in this group helped to ensure that I was acting as a responsible researcher and research instrument in this study.
Participant Selection

The participants of the study were limited to five children who were referred to music therapy treatment by the faculty and clinical staff of an elementary school because of immediate crises they experienced. The children in this study were in crisis because of conditions that exist within their home environments. The first five of ten selected children who agreed to participate and returned their consent forms were selected to participate in this study. The sampling method used to select the study participants was purposeful and not random.

Outline of Research Design

Data Gathering

Data were gathered by recording each session in its entirety. The tape was created on a stereo Sony Walkman cassette tape recorder. Along with the tape recording, all MIDI events were recorded on a Macintosh Classic computer using the Vision sequencing software. All work written by hand was saved in a paper folder labeled with the child’s name. If the words were written on the word processing software, the file was kept in computer file folder labeled with the child’s name.

Data Analysis

The data was analyzed in ten steps. These ten discrete stages of analysis were performed to provide a complete and thorough viewing of all data. The analysis continued until the data was adequately coded into categories. Categories subsumed other categories and many of the categories became “theoretically saturated” (Strauss, 1987, p. 21) That is, “when additional analysis no longer
contributes to discovering anything new about a category" (p. 21). The ten steps of analysis are:

1. At the end of each music therapy session, I detailed the events that had transpired in a daily process note. This entailed writing a brief one to two paragraph statement about the events of the session. Additionally, I listened to each tape of the session without transcribing the tape. Time did not permit transcription of the tapes at this point. This step was taken to provide ongoing analysis of each session as it occurred in time. Through these process notes, I was able to chart the weekly progress and process of each child.

2. Upon the completion of the sessions in their entirety, I listened to each tape of the sessions in consecutive chronological order for each child. During this step, I listened to each tape, again without transcribing the events and dialogue on the audio tapes. This step was taken to provide myself familiarity with the data and to ensure that I had complete data for each child. I wrote analytical memos regarding the data in a notebook.

3. After I completed the second listening of the audio tapes, I repeated the procedure of listening to each tape of the sessions in consecutive chronological order for each child. As I listened for the third time, I transcribed each of the audio tapes verbatim into a line numbered session transcript. This was accomplished by typing the data transcriptions directly via word processing program.

4. The previous step provided additional familiarity with the data. To ensure accuracy of transcriptions, I undertook a fourth listening of the audio tapes while reading the transcriptions. During this step I continued to write analytical memos regarding the data on the transcriptions. These memos were written in the margins of the transcriptions. The memos were used to detail reactions and
observations I had, regarding the data as they pertained to the combined listening and reading of the data.

5. At this point, as I became more familiar with the data, I was prepared to begin forming categories. I reread each transcription along with the analytical memos and proceeded to analyze the data to form preliminary categories. This step was completed by open coding to create initial categories as they appeared in the transcriptions of audio tapes with different colored highlighting markers.

6. After forming the preliminary categories in the open coding, I went back to the annotated transcriptions and reread them for a fresh perspective. As I read each marked and colored section, I worked to refine the categories in an axial coding. As I filtered through each of the sections, core and subcategories began to emerge. Through cross checking the categories that appeared for each child with one another, I found patterns that either supported or helped to redefine the categories.

7. The next step provided the selective coding necessary to create the core categories. This step was done to provide an added mark of objectivity. In order to achieve this, I took the complete groupings of these categories and created a computerized database. This database was created using Microsoft Excel 3.0 software. It allowed me to cross-check the categories through different sorting procedures.

For example, I was able to take each category heading and then create subcategories as they related to the headings. Using the database, I used the computer to assist in marking the categories which were related or repeated in each of the headings. As these relationships appeared throughout the data, I was able to pair and mark cross-relationships within the data.
8. At this point, I used the categories to create personal constructs of each participant. This step was taken in an attempt to allow the children to "speak" through their own words as they appeared in the transcriptions. These profiles were then used to create a second level of analysis by cross referencing each of the categories and the three subcategories in a continuation of the constant comparative analysis. The categories of music making and emotional content were compared through each of the profiles. These were then viewed in relationship to the specific goal areas of each child and how he or she related to the use of digital music technology.

9. After the formation of this taxonomy, it became apparent that the research question was not fully explored within the existing categories. It was necessary to continue to compare the categories, but now, in relationship to the music making process, the digital music technology, and the therapeutic process that ensued. At this point, a fundamental shift occurred in the categories. The categories then expanded from two to three categories. The subcategories diminished to nine categories that encompassed the earlier listing of forty-eight separate subcategories.

10. From this point, I was able to enter the final stage of analysis. This stage entailed viewing the participants in relationship to their individual use of the digital music technology. I then compiled the results of each individual child's use of the digital music technology. This step was taken to aid in the formation of a composite picture of the children's use of the digital music technology in comparison to one another. The data are presented in subsequent chapters according to these relationships.
Trustworthiness of the Study

Trustworthiness was established in this study through constant, recursive analysis of the data. In order for this study to accurately attempt to explore the problem at hand, there needs to be a high degree of trustworthiness. Ely states "Being trustworthy as a qualitative researcher means at the least that the processes of the research are carried out fairly, that the products represent as closely as possible the experiences of the people who are studied" (1991, pg. 93).

According to Lincoln and Guba (1985), and Hinojosa (1992), the literature of qualitative research looks to at least nine distinct and discreet criteria to determine the trustworthiness of a study. They are: credibility, triangulation, independent observer analysis or peer debriefing, peer support group, applicability, negative case analysis, participant review, dependability, and confirmability.

My own independent review of Bodgan and Bilken (1982), Glasser and Strauss (1967), Strauss (1987), Strauss and Corbin (1990), Leinniger (1985), Lincoln and Guba (1985), and Ely, et al (1990) confirms Hinojosa's findings. Trustworthiness in this study has been marked along these criteria. I have chosen to use the five evaluative steps first formulated by Lincoln and Guba (1985) and then applied to qualitative music therapy research by Amir (1992). In evaluating the standard of trustworthiness in her work, Amir focused on five standards:

Intensive contact with the phenomenon under study,
Triangulation and cross checking of the data,
Peer debriefing,
Negative case analysis, and
Member checks.

I have chosen to apply these five standards of trustworthiness to this study. This decision stems from the completeness of Amir's standards and the precedent that
this application of Guba and Lincoln's standards has set in qualitative music therapy research. The application of the standards is as follows:

I maintained intensive contact with the phenomenon under study and immersed myself into the cultural lifeworld of these participants for the duration of the study. I had daily contact with the participants both in and out of the music therapy sessions. I limited my discussion of all matters pertaining to the therapeutic process to the actual sessions. I deepened my contact with the participants through the intensive scrutiny I placed on the repeated analysis of the analytical memos, audio tapes, and the subsequent transcriptions.

The data were triangulated and cross checked. Ely et al. define triangulation as the method for "checking data obtained by a variety of methods is one way of contributing to trustworthiness" (1991, pg. 97). Furthermore, triangulation is "the use of multiple research methods to study the same phenomenon" (Wilson, 1992, p. 3). The data were triangulated with the analytical notes and the process notes that were created for each therapeutic encounter. Each of these codings were performed sequentially. This was done in an attempt to form congruence between the different research methods. As the same method of analysis was applied over time, I was allowed to view the data factually and with clarity.

Peer debriefing continued throughout the process of conducting the research sessions and their subsequent analysis: I participated in a peer support group consisting of four doctoral candidates in music therapy who are working on, or, contemplating qualitative research. There has been a regular sharing of the process of this study throughout its entirety. This step was taken in an attempt to de-isolate myself from the data and its analysis and to expose myself to the scrutiny, support, and input of my peers.
Negative case analysis is essential for establishing trustworthiness. Strauss and Corbin (1990) find that "They don't necessarily negate our questions or statements, or disprove them, rather they add variation and depth of understanding" (their emphasis, p. 108-109). In this study there was a single negative case. This case was a variation in a participants' process and was therefore viewed as a negative case study. This case is presented and discussed as to its significance to the findings and grounded theory.

Member checks are used to confirm or refute suppositions made by the researcher concerning the significance and implied meanings of statements made by the participants. Member checks were performed throughout this study. This technique allowed me as the researcher to strengthen the trustworthiness of the study by having the participants affirm my interpretations of their actions. I employed member checks from session to session to confirm impressions and findings that came to my awareness in the analytic memos drafted after each session.

As these issues arose, I directly questioned the participant as to the meaning of an event. I used the technique of questioning the participants using a rephrasing of the participants' statements which had been made in a prior encounter.

An illustration of this technique is evident in the following example. In order to clarify my understanding of Ann's process, I questioned her to determine if I viewed the situation correctly. I asked Ann, "I understand that in the last session you said you enjoyed playing the keyboard. Is this still true?" Ann responded positively, I went on to check to see if she finds using the technology confusing. In a previous session, Ann voiced concerns regarding the difficulty and confusion surrounding the musical instruments. Ann tells me that she is not confused, but she feels spoiled by all of her options. This application of the member check technique
allowed me to see Ann's process in a clearer way. These checks were performed to
gauge the veracity of the analysis process. Although directive questions were
posed, compliance with the questioning was not intended or sought.

Post-session member checks were not possible to attain in this study. This
is due to the transient nature of this short-term population of children. It was not
possible to reassemble all of the children again to have complete participant
involvement in checking the final outcomes of the data analysis and categories.
Consequently, I did not review the findings with any of the participants. I do not
believe that the trustworthiness of the findings required the input of the participants
in reviewing the final outcomes.
CHAPTER V

THE FINDINGS AS THEY RELATE TO THE GROUNDED THEORIES

"The aim of this method (grounded theory) is to discover the central complex process that explains and clarifies the interaction between individuals under study" (Stern, 1985, p. 159). The aim of this chapter is to present an overview of the findings as they relate to the grounded theories. To paraphrase Stern, the findings and theories of this study serve to illustrate several complex processes that explain and clarify the interaction between the participants and the digital music technology under study. These findings and theories are presented in the subsequent chapters. The theories are grounded in the session data of the five participants. The data were gathered and analyzed by the process of constant and recursive analysis. This process has aided in the formation of two theories.

As detailed in the previous chapter, the process of analysis led to the formation of categories. Originally, there were 48 separate and distinct categories. As the second level of analysis ensued, the 48 categories became three core categories with nine subcategories. The final aggregation of categories is detailed in Table 2.

The categories and subcategories listed in Table 2 appear as they emerged from the analysis of the data prior to the formation of the theories. As I entered the third phase of analysis, the relationships of these categories and subcategories became apparent. The two theories presented in this document came directly from the process of analysis of the categories. Therefore, these theories are each closely related to at least one of the three categories and each of their related subcategories.
To ground these theories, the presentation of the findings in the next two chapters, selects key interactions that illustrate the theories as they were experienced in the sessions. This discussion includes detailed verbatim accounts of the child's process as written in the session transcriptions. For a complete and detailed accounting, the session transcripts appear in Appendices A, B, C, D, & E. Each Appendix contains an abridged session transcript for an individual participant.

There are two grounded theories that arose from the analysis of the data. I have created two chapters to help illustrate the interrelationship of these theories to the categories and subcategories. Additionally, each chapter addresses a different topic regarding the use of digital music technology in the music therapy process. This presentation of the findings are given in support of the two theories. Chapter VI presents the grounded theory concerning the therapeutic process. This theory serves to illustrate the central and complex processes common to the category.

The findings demonstrate that three distinct stages occur in short-term music psychotherapy with children in crisis using digital music technology. This theory arose from the analysis of the category entitled the Therapeutic Process. Therefore, the theory is discussed in relation to the three stages of the therapeutic process that ensued for each participant.

A nine part presentation of data is used to support the conceptual framework of this theory. First, I will introduce the participants in terms of personal constructs, family and social histories, school histories, reasons for referrals, physical history, and therapeutic summaries. This will provide participant constructs and profiles of each of the children. Personal constructs will report the findings from my interpretations of the participants' perspectives. The voice used for the narrative in these constructs is essentially verbatim from the transcripts of the participants' sessions.
Table 2
Core Categories and Their Related Subcategories.

<table>
<thead>
<tr>
<th>The Therapeutic Process</th>
<th>Musical Structures</th>
<th>The Participants' Relationships To The Digital Music Technology</th>
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<tbody>
<tr>
<td>Trust</td>
<td>Improvisation:</td>
<td>Imagery Associated with Digital Music Technology</td>
</tr>
<tr>
<td></td>
<td>Solo, Duet &amp; Trio</td>
<td></td>
</tr>
<tr>
<td>Awareness</td>
<td>Directed Musical Activities: Instrument, Preset Rhythm Patterns, and Timbre Choices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inside &amp; Outside of the Session</td>
<td></td>
</tr>
<tr>
<td>Internalization</td>
<td>Music Making Using</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre- Composed Music</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Songwriting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete &amp; On-going</td>
<td></td>
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</tbody>
</table>
To provide "layering," I will present the participants' school and personal histories in the voices of the school's staff as reported to me. Ely as cited by Aigen (1992), terms layering as "a narrative device, one can present viewpoints from a variety of individuals or present viewpoints from one individual through time" (p. 4). I have chosen the technique of presenting from a variety of individuals; myself included. At this point in the findings, I believe that this technique will provide added clarity to the discussion of each participant's process.

After this presentation, I will present the three stages of therapy experienced by each of the participants. The participants' therapeutic processes are first analyzed and then discussed in relation to the grounded theory of three stages of therapy. A summary follows to illustrate the conceptual framework of this theory.

Chapter VII presents how the relationships of the two core categories, Musical Structures, and The Participants' Relationships to the Digital Music Technology, led to form the theory of Transparent Technology. Again, this theory serves to illustrate the central and complex processes common to these categories. The theory is used to explain and clarify the interaction between the participants and the digital music technology under study. In this chapter, I present the theory of transparent technology along with five qualifying conditions that need to be present. To illustrate the grounding derived from the categories Musical Structures and The Participants' Relationships to the Digital Music Technology, detailed discussion of the participants' experiences within the brackets of each category follow the initial presentation of the theory. After this discussion, a summary is offered to concretize the conceptual framework offered.
CHAPTER VI
THE GROUNDED THEORY RELATING TO THE THERAPEUTIC PROCESS

The first grounded theory that is presented in this discussion pertains to the process of music psychotherapy. The findings demonstrate that three distinct stages occur in short-term music psychotherapy with children in crisis using digital music technology. There are several postulates that require consideration when contemplating further presentation of the findings and theory. Foremost is the belief that I, as a therapist, am all but powerless to change anything about anyone. I may be able to influence some short-term changes in attitude, behavior, or thoughts. Long-term, significant change, which is the overall goal of the therapeutic process, is an intrinsic process. Any and all changes that occurred in the therapeutic process were a result of the participant's own impetus towards change. My role was to carefully construct safe and trusting environments for the participants to explore themselves and their process. The participants took the journey; I was the guide. In this study, each participant followed his or her own paths through some uncharted territory. The following is an account of the findings as they relate to this process.

Influenced by the writings of Maslow (1971) and Hesser (1992), I became more aware of the concepts of "Being and Doing" and their relevance to the participants of this study. Succinctly, Being is "the inner core of a person, their basic needs, capacities and preferences... The characteristics of Being have been described well by Maslow (1968, 1971) and include wholeness, uniqueness, aliveness, perfection, creativity, playfulness and self sufficiency. " (Hesser, 1992 p. 5-6).
In the case of children in crisis, this sacrifice of their being encompasses their identity. The inner core of their needs and preferences are denied by their crises. When available and accepted, therapeutic intervention can aid a person in crisis towards returning to a place of integration and peace. Hesser states, "The purpose of therapy is for the client to become aware of his natural state of Being and become once again able to act on the basis of this (p. 6).

The departure from Being is termed Doing. Doing is what occurs when the natural way of Being is altered. A child will sacrifice their natural way of being to sustain their neglected needs. The concept of Doing can be viewed as the opposite of Being. Many functional adults are lost in the world of Doing while sacrificing their Being. In the case of the child in crisis, Doing is omni-present. There is a distorted sense of Being, if there is a sense at all. Doing absorbs the child and his lifeworld. The children needed to cope with abusive and sometimes violent parents, and hostile living conditions. Often, their Being was negated. The children were consumed with Doing enough to survive.

In this study, the participants were in a maelstrom of uncertainty combined with ambivalence to their plight from the world around them. Their Being was confused at times, concealed from the outside world. This may be due, in part, to the everyday realities that envelope the participants' lifeworlds. Yet, in each child remained a core of humanness. The beauty and vitality of their spirits was brought forth and observed in their music making.

The presence of the each participant's ineffable humanness affirmed my belief in his or her potential. That is, the person I am treating in therapy has the potential to move towards what is healthy and positive: towards a state of wellness. The manifestation of this potential appears in many different forms in the findings.
These findings led to what I see as a logical sub-categorization of the therapeutic process. Through constant and recursive viewing of the data, I encountered three words that kept reappearing as descriptors of the participant's experiences. These words: Trust, Awareness, and Internalization, reappeared so frequently in the analysis, that they became virtually inescapable in the formation of subcategories.

**The Concepts of Trust, Awareness, and Internalization**

**Trust**

The first stage is the foundation of the process—the building of trust. I faced a formidable challenge building trust with these children. Too many of the adults in the participants' prior relationships had not been worthy of their trust. Each of the participants in this study had placed trust in an adult who did not honor this trust. Additionally, each participant was alienated from at least one parent.

Ann suffered incest at the hands of her father. Donald's father reappeared in his life by coming home to die. Jennifer's mother abandoned her at the age of two. Susan's father left her. Timmy never knew his father; his mother drops in and out of his life.

A lack of trust can lead to confusion and a loss of the sense of self. If trust is established and nurtured, then therapeutic change can occur. Rogers (1980) finds that “As persons are accepted and prized, they tend to develop a more caring attitude toward themselves. As persons are emphatically heard, it becomes possible for them to listen more accurately to the flow of inner experiencing.” (p. 116)
Trust is even more difficult to establish in those who have little if no regard for themselves. A confused self, devoid of identity sees others as the modifiers of who they are. Rogers states this as:

This as we see it, is the basic estrangement in man. He has not been true to himself, to his own natural orgasmic valuing of experience, but for the sake of preserving the positive regard of others has now come to falsify some of the values he experiences and to perceive them only in terms based upon their value to others. (Rogers, 1971)

The issue of trust is paramount to any relationship. In my relationships with the participants, it was critical. A child in therapy needs to feel he or she can trust and be safe in his or her process. Issues of confidentiality, availability, and concern needed to be addressed and reaffirmed constantly in every session. These issues were addressed either verbally, musically, or through a combination of actions and words. I had to present to each participant as a confidant to build trust, a therapist to facilitate change. Each participant and I built and maintained trust in separate ways.

**Awareness**

Traditionally in client centered therapy, awareness of needs has been viewed as part of congruence with both the therapist and patient, regarding their experiences in therapy. "Congruence is defined more technically as a condition within the person in which his feelings, his awareness of his feelings, and his expression of them all correspond or are congruent with one another." (Shilien & Zimring, 1970) p. 25

Another popular use of the term awareness has been in terms of awareness within the therapeutic process as part of a movement from one stage to another. Theorists (Rogers 1980, Maslow 1976) have linked the moment of awareness to part of a larger schema of needs and acceptances.
On a more philosophical level, Lyons (1981) finds that the concept of awareness as more akin to discontinuities. These discontinuities are present in all therapeutic encounters. "The fact of discontinuity extends, equally, to the relations between awareness and its target. If my awareness were, as empiricists would have it, simply one more term in a natural series, then it would be inconceivable, in principal, for there to be a gap between the ego pole and the object pole of my field of experience." (Lyons, 1981,p. 78)

My theory concerns the moment of awareness in which the patient realizes the presence of a need or issue. The need has become a part of the patient's consciousness and this awareness has been shared with the therapist. In the music therapy process, this sharing can take place verbally or musically. A moment of awareness can demarcate the movement from one stage of the therapeutic process to another. This movement can lead to internalization, although it is not a certainty.

If a child is to change as the result of therapeutic interaction, the child must first possess an awareness of the need for this change. Therefore, the second stage of the therapeutic process includes the events experienced by a participant influencing his or her awareness of needs and issues. Awareness of needs and issues is germane to change within the therapy process. The process of becoming aware entails first the identification of a need or issue. The child must then accept the need as his or her own. After there is an acceptance of this discovery of need, the child has reached a point of awareness.

These moments of awareness emerged as a result of participating in the process of music therapy. Increases in participants' awareness were observed in several areas of contact. Of central importance, were the participants' music, lyrics, and verbal interactions.
In order to illustrate the theory as grounded in the findings, I will first report the participant's arrival at a place of awareness as I observed it occurring. Then, I will demonstrate what led the participant to become aware in this moment. If an acknowledgment of the awareness was made by the participant, I will illustrate the participant's understanding of his or her awareness.

**Internalization**

The third stage relates to the participants and the act of internalization. Internalization occurs when the patient has become aware of his needs and identified the need for change. Rogers (1989) finds that "this understanding of the self and acceptance of the self, is the next important aspect of the whole process. It provides the basis on which the individual can go ahead to new levels of integration." (p.73) Additionally, he finds that once this level of integration is reached that: "there is less fear about making choices and more confidence in self directed action." (p.75)

We tend to evade personal growth because this, too, can bring another kind of fear, of awe, of feeling weakness and inadequacy... Thus to discover in oneself a great talent can certainly bring exhilaration but it also brings a fear of being a leader and of being all alone. (Maslow, 1968)

The internalizations observed in the participants of this study arose from an awareness of an issue as it occurred in the process. For some participants, the internalization was observable moments that had a complete cycle of beginning, exploration, and closure. For other participants, the internalization consisted of focusing their energies to discussion, denial, resignation, or avoidance of the issue or need.

Themes that arose in the internalizations of the participants included discussions of feelings associated with the creation of music. The participants also discussed either their satisfaction or dissatisfaction with music they had created.
Perhaps the most common theme that emerged was the sense of empowerment experienced by the participants through their music making.

Participants: Profiles and Process

Each participant’s therapeutic process is presented in two ways. First, there is an overview which is used to introduce the participants. Then, there is a discussion of their therapeutic processes. The discussion continues with a stratification of the participants’ processes into the three stages outlined in the grounded theory. The intent of dual presentation is first show an objective reporting of each participant’s process as it appeared in the process notes and the session transcripts. The intent of the second presentation is to demonstrate the analysis of the findings in support of the theory presented in this chapter.

This section presents detailed descriptions of each of the five participants in this study. The participants' therapeutic processes are documented through personal constructs, clinical assessments, and anecdotal accounts to describe each child's experiences. The participants of this study are a rich and diverse group of children.

Yet, they all share the common bond of being classified as children who are in crisis by the staff of their school. Each child is experiencing a crisis that has been reflected in interactions in the home environment. The children have been referred to treatment in music therapy because of ongoing crises in their lives, both at home and at school.

The layering of the data presentation was provided by information gathered from the participant's teachers, guidance counselors, school administrators and support staff, and in only one instance, a child's mother provided additional information about the social histories of her child. All of this additional information
was related to the me after I began to see the children in the music therapy sessions. This was intentional.

I did not seek this additional information about each of the children until I felt I knew the child well enough to not be prejudiced by the opinion of others. In order to provide the reader a sense of the therapeutic process, the reader is first invited into the world of each child. The participant profiles are accounts of each child's experiences in the therapy process. These profiles use personal constructs, clinical assessments, and my clinical goal planning to describe each child's experiences.

The initial description of the children is provided through the use of personal constructs. My concept of constructs is derived from Bannister & Frassella, (1986) and Ely (1991). In this concept, the child's thoughts, words, and actions are represented through interpretation of the data.

Constructs are distilled from the data in as close a likeness as possible to the participant's mode of expression. The intention is to present in miniature the essence of what the researcher has seen and heard over time. (Ely, 1991, p.154)

Garner, as cited in Ely (1991), has an eloquent manner to define constructs. In describing the play styles of kindergartners she developed vignettes which were then termed constructs.

A construct is an inferred soliloquy based on the content of repeated observation and an interpretive composite of one child's seemingly characteristic thought and behavior. The construct contains statements which are considered central to the way the child perceives his or her experience during play. (p. 153)

The constructs presented in Chapter VI are a compilation of the words and ideas expressed by the children as recorded in their session transcripts. I took these statements and arranged them into a series of sequential themes that I felt represented each of the child's experiences in the therapeutic process.
Another view of personal constructs shows that "personal construct psychology is an attempt to understand the way in which each of us experiences the world, to understand our behaviour (sic) in terms of what it is designed to signify and to explore our realities with others" (Bannister & Frassella, 1986, p. 27).

While the constructs were assembled to introduce each participant profiled in Chapter VI, these constructs are also an amalgam of the data as they arose in the process of analysis. My intent was to provide the reader with an accurate view of each child. In order to provide this view, I used the children's own words. These words were in the natural language of the children. This was done in an attempt to separate my jargon, words, and ideas from the participants'. I attempted to accomplish this by arranging the children's words, actions, and emotions expressed in the sessions into brief vignettes. These vignettes tell the children's stories in the brief period we worked together.

The interpretation of these themes was based on my understanding of the children and their process. The process of data analysis detailed in Chapter IV enabled me to code the data to the point of being able to interpret with a degree of objectivity. Therefore, every attempt was made to not embellish the findings with my subjective opinions.

Additionally, the data presented in this chapter was arranged in an attempt to provide the reader an opportunity to experience the lives of each child in this study. It is essential that the reader come to truly know the children. This presentation of the data will hopefully give the reader some of the prerequisite information necessary to understand the children's therapeutic processes using digital music technology. The stories told by the children help to make their use of the technology all the more compelling and relevant.
In my clinical experiences, the children's process as told through the data are a true window into their fragile worlds. Their music making and discussions are usually sincere and reflective of their life situations. It is this window of opportunity that gives the findings of this study the information in which to base its conclusions and recommendations.

The purpose of these profiles is to allow the reader the opportunity to experience each of these children individually. It is intended to have the children's stories and spirits become present in the mind of the reader. The children's names have been changed to protect their confidentiality and identity.

Participant: Ann

Personal Construct

I have a quiet voice, a little voice, but I have stories to tell. Not that I'm going to tell you any. Why should I? By the way, my name is Ann. Anyway, did you know that my favorite subject is Math? I always get 100s and I never fail. Well sometimes I do, but not all the time. Do you know what subjects I hate? Spelling and Family Living and Sex Education. My sister is really neat. My brother is a pain. My Mom is alright. What did you say? Do I have a Dad? Can we talk about something else?

Anyway, I like to write songs. I think the songs help me to think about things in my life. I write songs using the QY -10. I like the music patterns but the sequencer is too hard for me to figure out. So, I just sing along with the music patterns and make up songs. Well, I don't really sing, well, not very well, but, I think it works. I like to type the words onto the computer. They look nice when I print them out.
So, what else do you want to know? Sometimes when I listen to my music I think of a lion walking slowly like a predator. But sometimes it's more like a seal in the circus. All of this music technology is great. And the best thing is that I understand some of it. You know like it doesn't really confuse me. The thing I like the best is the drum pad. I mean they're different. You just hit it. Sometimes when you are calm, you hate hitting it. The keyboard is different. You can pick the sounds you like.

The thing that worries me is that I wonder sometimes if I deserve to have all of these music making things for me to use. I feel spoiled. You see, I'm a middle person; not too smart, not too dumb. There are brighter kids than me. They should get to use all of this. Not me.

Sometimes I think about growing up. When I was little I learned, if I can trust you I will depend on you as a friend. Anyway, I have this shirt and it says, "Try walking a mile in my shoes." Imagine that, locked in a room. You'll never walk very far in my shoes. Where are you going to walk? Not very far at all. Why do they lock me in this room?

You know, if you're listening, I'm right and you're wrong. You'll never get a chance to walk in these good shoes because these shoes were made only for me.

Oh my. Did I say all this? I should be quiet now. You see, I have a small voice, a very quiet voice. I really have a lot to say. Please ask me.

**Family and Social History**

Ann is a 10-year-old female of Hispanic descent. Her family immigrated from Central America approximately 30 years ago. Ann is the youngest of three children. She has a 13-year-old brother who lives at home, full time. Ann's older
sister is 21 years old. She has been away at college and has just returned home. Both her mother, who is a homemaker, and her father, a machine operator, live in the household. There are no other relatives known to reside in the household.

Ann's parents separated for several years shortly after Ann's birth. Ann's mother has told school authorities that she believes it was all Ann's fault that the parents separated. The mother did not elaborate why she feels this way. They remarried when Ann was 4-years-old. Ann's mother worries that Ann is both suicidal and an alcoholic. Ann has refused treatment from therapists both in and outside of school.

Ann's father has been reported to both school and police authorities as a sex offender. It has been reported that Ann has been the victim of forced paternal incest. This report came initially from Ann's older brother. He had participated in a school assembly program that discussed incest and child abuse. The assembly consisted of actors and puppets dramatizing the appropriate responses to various forms of abuse. The brother was immediately compelled to report his father after participating in this assembly. The mother corroborated the allegations. The father has denied any involvement.

The resolution of this reporting has been that Ann's father has agreed to stop molesting her. The mother's solution has been to lock Ann in her room at night with a padlock to which only the mother knows the combination. To date, Ann has refused to discuss any of these charges with school nor police personnel.

School History

Ann is student who maintained an 80 average in her major scholastic subject areas. Prior to the first reported incident of abuse, Ann enjoyed a considerably higher average. In interviews with her current and former teachers, one of whom
taught Ann both before and after the abuse began, there is agreement regarding Ann's apparent changes in affect and behavior. All four teachers interviewed agreed that Ann has gone from a gregarious and outgoing child to one who is withdrawn and fearful of others. As Ann becomes more withdrawn, she also becomes more of a discipline problem in her classroom.

Both the teachers and the school guidance counselor suspect that Ann's abuse by her father is still continuing. There have been no new reports to school or police authorities of further incidents.

Reason for Referral

Ann was referred for treatment in music therapy by her classroom teacher because of an inability to interact with any of her peers. Ann displays incidents of acting out and aggressive behaviors often followed by long periods of isolation from her peers. At times, Ann has had sudden and self-abusive outbursts.

Physical History

Ann's school records indicate that there is no history of major illnesses, hospitalizations, or accidents. She is a heavy-set child, who is of average height for her age. There are no indications in her record folder that Ann is taking any prescription medications.

Therapeutic Summary

Ann made moderate progress in her therapeutic process. Ann used the digital music technology to create three separate musical compositions. The subject matter of these compositions were: her school work in the first session, her relationship with her sister in the second session, and, in the final session, the
subject of trust and her self-image. Ann used all of the instruments provided to create these songs. Ann refused to name the QY-10 instrument.

Ann also used the instruments to improvise with me in each session. Ann discussed the imagery and themes that she associated with the music made in the sessions. Ann responded to my direction and contributions in her music making process. She was receptive to new ideas and undertook all of the activities with great enthusiasm.

Ann showed the most resistance when our discussion focused on her family life. Ann was forthcoming with information regarding her siblings. She was reticent to discuss any aspect of her relationships with either parent. Ann did engage in some musical activities regarding her parents, but remained difficult to engage verbally.

Ann would not engage in discussion or music making activities regarding her crisis at home. Ann did not offer any information regarding her alleged rape and sexual abuse. I did not confront her with the information that I had gathered outside of our sessions.

Ann's preference in musical instruments was for the Octapad. She enjoyed her work with the QY-10, but said she found the machine to be difficult and confusing. Ann used both the Macintosh computer and the Casio PMP 300 keyboard sparingly during her sessions. She offered no opinion about her experiences using either machine.

Ann's Trust

Ann was a paradox. I knew that she had been raped by her father. I knew this because her teacher told me. I knew this because her brother told me when it happened; he had to tell someone. I knew that she would be reticent to discuss her
rape. Three adults, all professionals—the guidance counselor, the school psychologist, and the social worker, had all attempted to discuss it in the past year. Ann not only refused to discuss her rape, she refused to see any of these people again. I needed to find a way for Ann to trust me; I wanted to help her with her crisis.

I decided that the best way to help Ann was to provide a place where she could explore and be a child. I decided not to initiate discussion regarding my knowledge of Ann's abuse. If Ann needed to trust me with this experience, I would listen. Ann and I built our relationship through a series of events.

Trust was a recurring theme that appeared in the analysis of Ann's sessions. In each session, issues of trust appeared. They were most prominent in sessions four and six. The issue of trust was discussed directly in these sessions. Prior to these discussions, trust was built gradually and was implicit. I observed the slow building of trust in Ann's interactions and in the content of her lyrics and improvisations.

Towards the end of session four Ann broached the topic of secrets. As shown in the following session transcript, Ann is not comfortable trusting her friends.

AR Sometimes, I wish I didn't need friends. It's difficult to find friends who are loyal and can't keep a secret you tell them.
JN Is it a big secret or a little secret that you told them?
AR Ah, well—little.
JN Did you ever tell them a big secret?
AR I don't have any big secrets. If I get a really low mark I don't care I show it to them; so I don't care.
JN I see. You feel people have not been loyal or trustworthy?
AR Uh huh.
JN How does it make you feel when that happens?
AR Angry, I mean I trusted them. I don't think that I would trust them again.
JN Has anyone else in your life outside of your friends—taken your trust and not kept it?
AR My mother.
JN What did she do to break your trust?
AR She will tell my brother if I take his stuff, but she'll take my stuff, hide it and she'll be saying I don't know where it is.
JN Has your mom done anything else?
AR No.
JN How about your Dad?
AR I don't tell him anything. He works and he comes home and then all he does is lay around watch TV, eat and then go to bed.
JN So you really don't have much of a relationship with him.
AR No.

(Session Transcript)

I used this opportunity to discuss Ann’s meaning of trust. This topic was not discussed again directly until session six. In this session, I suggested the topic and Ann decided to explore this further.

JN What would you like to write about?
AR I don't know.
JN Trust has been a topic we have worked with. Would you like to write about that?
AR Okay.
JN What are some words you think of when you think about trust?
AR Loyal.
JN Let's start with that. (she types in the word loyal) What's the next word that you think of?
AR I don't know - help me.
JN Well, one word that comes to mind is the word depend.
AR Okay.
JN What would I need to do to get your trust?
AR Know that you're my friend.
JN Let's put that in there. (Ann types friend) What other things do you need?
AR Okay, I don't know if I want to do this anymore.
JN Well I asked if we could do this because I feel that this may be an important issue for you to explore.
AR But I trust you!
JN I'm glad to hear you say that. I feel you do trust me, and that you have been very honest with me. I was thinking that there may be someone outside of the two of us that you did not trust. Last week we discussed the lack of trust you had in Judy. I would like to wrap up our discussion of this before our time together is up. Am I right about this? Or, am I in the wrong direction with this?
AR You're right. I guess I would not trust someone who told someone something that another person told them not to tell, I wouldn't trust that person.

(Session Transcript)
Ann's Awareness

Through the course of her process, Ann became aware of her issue concerning her self-worth. I watched as this occurred in her second session. Ann declared in a song lyric she wrote towards the end of this session, "I'm here, so don't ignore me."

This awareness reappeared in Ann's fourth session. Ann disclosed that she did not feel worthy to have music therapy sessions. "I felt spoiled; maybe because I have all of these choices. But, maybe other people may not have that much. Maybe I shouldn't have all of these choices."

I saw Ann developing more awareness of this issue. I continued to question Ann about this. In her fifth session, I asked, "What are you trying to tell me? Is there something that scares you?" Ann replied, "My mother wants me to get a high mark in math. It's my biggest worry. I want to do well."

Ann's Internalization

The internalization Ann made as a result of her awareness appeared to address the issues she had discovered. She continued to develop an understanding of her feelings through the processes of song writing and improvising on musical and verbal themes. I witnessed Ann grow in awareness of these issues. She appeared to be invested in continued discovery.

When in the second session, Ann realized she did not want to be ignored any longer, she took action. She addressed this issue in a songwriting process. The lyrics are assertive and demand attention. "I'm here, so don't ignore me. Let me play with you." This was addressed to a friend named Jane. Ann felt Jane did not honor her trust; Ann found an action to let her know this—at least symbolically.
Ann disclosed that she was not deserving of treatment in music therapy. She was not deserving of all of this attention. Ann's internalization of this awareness came after she engaged in a verbal process to explore these feelings in depth. In the session that followed this discovery, Ann engaged in a game of musical portraits. The characters in this drama were based on the students Ann felt were more deserving of treatment than she.

As we reached termination in our sessions, Ann seized the final moments to return to an unexplored theme. In Ann's fourth session, I had suggested an improvisation on a theme written on her tee shirt. "You'll never walk a mile in my shoes." Ann requested that we return to this theme and write words and music for a "Tap Show." "These are good shoes, these were always good shoes. They were made just for me. So, never try walking a mile in my shoes."

I found this to be the clearest internalization of her needs Ann made in the entire process. In one song in the final moments of the process, Ann had found the way to provide herself closure. Through this action, Ann had affirmed her existence and asked for an acknowledgment of her worth.

Participant: Donald

Personal Construct

D-D-D-D- Donald that's my name. If you ask me again, I'll tell you the same. So don't wear it out and treat it right, and you and me we'll have a good night. Uh Huh, Yea Yea, Uh Huh, Yea Yea. Damn, I do like to rap. I like to play music. I like the drums and I like to hit.

My Dad was a musician. He dead now. I mean all my relatives they be bugging out and crying 'bout him dying. Not me. I don't cry. Nope, I'm a man
now. We all going to die. My Uncle; dead. My Grandmother; dead. Aint no big deal. I don't cry.

This Music Machine 1000 is fresh. I like the beats. They be funky--funky beats. I like the different patterns that you can get with this thing. You can make them fast. You can make them slow. They can even stop and start again. This be the music that I hear on the radio. Some of it sounds like Jazz. Soft and mellow. Some of it sounds pretty hard core. This thing is fresh and chillin'.

The keys on the Music Machine 1000 are okay. I mean I played songs on this thing by myself. My father showed some songs on the piano. But now that I think about it, these keys are too small. I like the bigger keys, like on the Casio keyboard. Yeah, I didn't do none of this until Joe got me started again. This machine and Joe helped me to play music again.

My favorite thing to do in this music is to play the drums. I got real drums at my Grandma's house. These drum pad things be different. But I like these drum pads more 'cause they got more sounds and stuff you can do with them. Man, there be much sounds you can play with these. I really like when I jam with Joe with these pads. We play some fine music. The pads are not too difficult to use like the Music Machine 1000.

I like the beats on the Music Machine 1000 but the problem is that it's too complicated. I mean the sounds are alright, but it's too hard to use.

Wanna hear my rap bout "Flo the Ho?" She always be on the corner telling everyone, "I need a dollar, I need a dollar." I mean everybody knows her, she got a name around. My Moms like to chase her with a broom. I ain't did nothing with Flo, but she really is in my neighborhood. Damn, I seen her everyday. She's sad.

I used to have a dog. My Mom said I can't have him no more. I ain't take care of him right. So now, I got a cat named Punna. Well it really is my sister's,
but it's like its mine. I felt sad when my dog got sent down south, but, I didn't cry. I never cry. You know what I do when I feel like crying? I box and hit things, and I play the drums. But I ain't never gonna cry; Nope not me.

Family and Social History

Donald, is thirteen year old male child of African American descent. Donald is the middle child of three children. His older sister is 15-years-old, his younger sister is 8-years-old. He shares a room with his two sisters. Donald's mother is 42-years-old; she is currently employed as an administrator with the New York City Police Department.

Donald's father is deceased. He died three years ago. He was estranged from his family until shortly before his death. He reunited with his family and returned to the family home. The psychologist who evaluated Donald at the time of his father's death believes that Donald's father started to form a lasting bond with him. She feels that the father's sudden reunion and then the loss of this relationship has had a devastating impact on Donald.

Donald's mother is currently involved in a relationship with a man who reportedly cares for Donald. There are conflicting reports in Donald's record folder as to the relationship of this man to Donald. Donald refuses to discuss this situation. It is not known whether this man lives in the household with Donald or is a regular presence in Donald's life.

Donald has been described by his mother as a hyperactive, anxious, immature and mischievous child. She complains that he is "always causing trouble, or is up to something no good." Donald's mother claims she will confront her child when she suspects he has done something wrong. Often he will deny his action.
When she confronts him with proof of her accusations, Donald will often respond with the phrase, "Something told me to do it."

School History

Donald has been categorized by the school based educational evaluator as a child who is learning disabled. He has consistently failed every major subject area for most of his academic career. As a result, Donald was first placed in a special remedial tutoring program known as Resource Room. After minimal progress in this program, Donald was placed in a special education program. In this program, Donald receives individualized instruction in a small class setting.

Donald has presented as a discipline problem throughout his academic career. Descriptors such as rude, disrespectful, deeply troubled, and has poor self-image fill his permanent record folder. There are a plethora of anecdotal records describing Donald's fights, altercations, and disappearances from his classroom settings.

Reason for Referral

Donald is a child who has difficulty functioning in a school setting. His teachers report that he feels victimized by his teachers, administrators, and classmates. They also report that Donald has grown suspicious of any help offered him. Donald has been referred for treatment in music therapy by the school psychologist and his classroom teacher. It is felt that Donald can benefit from this treatment.
Physical History

Donald's school records indicate that there is no history of major illnesses, hospitalizations, or accidents. He is a thin child, who is tall for his age. He requires glasses for proper vision, although, I have never observed Donald wearing his glasses. Donald's records indicate that he is enuretic; it is not clear if this is still a problem.

Therapeutic Summary

In Donald's process, the digital music technology was used to write songs and improvise. These improvisations were duets and trios with sequenced accompaniment. The digital music instruments were also used to perform raps and lyrics with sequenced and improvised accompaniments. Donald used all of the available instruments to create his music.

In the first session, Donald improvised with the patterns on the QY-10. Donald explored the use of the piano style keyboard on the QY-10 and played the song "Lean On Me." Donald discussed the death of his father, his claustrophobia, and his desire to not cry. In Donald's second session, he continued to improvise with the QY-10. Donald used the internal sequencer and patterns to create a song. In the third session, Donald wrote a song about dancing. He rapped this song. After he completes this song, Donald rapped a song he created outside of the session. This song is called "Flo, the Ho."

In his fourth, fifth and sixth sessions, Donald improvised several pieces of music. He used the Octapad as his primary instrument. The majority of the music created was done as a duet with me playing the Casio PMP 300. We also created
music as a trio with the addition of sequenced accompaniment from the QY-10 or Vision software on the Macintosh computer.

Donald used the QY-10, the Casio PMP 300, the Octapad, the Proteus One Sound Module, and the Macintosh computer with Vision Software as instruments to create this music. Donald named the QY-10 instrument "The 1000 Music Machine."

Donald did engage in verbal processes, although he preferred to engage in a musical process. In the earlier sessions, Donald was eager to discuss his emotions and issues. As he became more involved in his music making process, Donald was less eager to engage in verbal interaction. Donald was receptive to direction and was responsive to interaction with me.

Donald's preferred musical instrument was the Octapad. He enjoyed hitting the pads. He associated this action with the feeling he gets from hitting another person as in boxing. Donald found the QY-10 to be too complicated. Yet, he enjoyed the music available on the QY-10, and played with many of the preset musical patterns. Donald used the Macintosh computer for sequencing using Vision software.

**Donald's Trust**

Donald presented to me as a sweet child captured in a man's body. He maintained a rough exterior complete with high top sneakers, leather jacket, and a "doo rag" (a head covering, traditionally worn by gang members). Yet, there was an innocence hidden beneath these layers. This innocence transcended his exterior; it was present to me from our first encounter.

In Donald's process, trust was not discussed directly. At first, I believed Donald perceived me as the person who allowed him entry to use the musical
instruments. By the second session, I thought otherwise. Trust was beginning to build. By the third session, Donald tested the limits of our trust. He first included me as a character in a song about the two of us in "Dancing in the Street." Donald then tested the limits of our trust by introducing a new song.

DH You know my friend, he got DJ equipment and this is like when I made up a rap the other day, it’s about a girl. It’s got curses though and stuff in it. It’s about Hō’s (prostitutes) and stuff.
JN Well that’s alright, I’ve heard the words before. Are there a lot of prostitutes in your neighborhood?
DH They be all over, You can’t walk nowhere without seeing one. I made up this rap and I memorized it about Flo the Ho. You want to hear it?
JN Okay. But let’s finish this one first, Are we done with it?
DH Yeah.
JN Well, let’s hear Flo the Ho.
DH We mixed the rhythm and it goes like this:

(Session Transcript)

It was at this point that our relationship moved towards a new and enhanced level of trust. Donald became more interactive through his increased improvisations and songwriting. This level of trust was sustained for the remaining three sessions.

**Donald’s Awareness**

Early in his process, Donald came to an awareness of an issue that was central to his Being. This occurred when Donald realized he could not place the year or time of his father’s death. He told me he could not cry. I felt his lack of tears was unresolved grief. He did not know how to come to terms with the death of this stranger, who was his father.

This awareness came about as a result of Donald’s reintroduction to creating music. Suddenly, he had the timbres and songs of his early childhood back within his grasp. These timbres and songs brought up painful memories of his father’s presence and music. Yet, Donald would not cry. When we discussed Donald’s trumpet playing, Donald told me that his sisters cried, his mother cried. I asked
Donald what would happen if he cried. This led to an awareness. If Donald did cry, he felt he would not live up to his promise to his father. On his death bed, Donald's father told Donald that he was now the man of the house. If he cried, Donald could not maintain the image he had cultivated for himself as protector of the family. He realized that he needed to maintain this role in his father's absence.

**Donald's Internalization**

Donald reacted to his discoveries. As he uncovered new bits of insight into his process, Donald entered into musical improvisations. He set a pattern; insight led to improvisation. Donald used these improvisations to explore and concretize his new found feelings.

Donald's awareness led to internalization concerning his relationships with his family. Through his improvisations Donald demonstrated his technique for dealing with his sadness and anger. He equated the striking of the Octapad to hitting people, as in boxing. This is what he said he did when he felt like crying.

When Donald came to the realization concerning his inability to cry, he asked for, "Romantic music, you know like in the movie, 'Beaches'". This action enabled me to clarify my understanding of Donald's process. In this movie, a main character dies, leaving the surviving character to learn to live with the loss--the very process Donald was attempting to learn. Donald's intuition and insight was much clearer than I thought.
Participant: Jennifer

Personal Construct

My name is Jennifer and sometime I wish I was dead. The pressure comes and takes over me. There is no relief. I am 13-years-old, and I go to music therapy sessions. This is not like music lessons. I do not learn to play music. All we do is talk and make up music. I use computers, and the QY-10 machine. I call the machine the "Music Creator." It makes the music, not me.

The music we create in music therapy is 50/50. Some not too good, some pretty good. I like the music and the rhythms and the words and the music. I do not like when the music too loud and noisy. The Music Creator make music that I like. But, it was too complicated to figure out. The manuals were too hard. I like the keyboard the most because it has everything.

I am lonely. Loneliness is always with me, I am always afraid, I want it to end. I cannot be a friend. Here it comes again. The pressure. Which is confusing me. From the problem I already had.

I feel confused and nervous. I don't know how to end this pressure besides turning on my imagination. When I turn on my imagination, the confidence will start to appear. Therefore pressure will vanish.

I cry. I cry because I do not know what else to do. I cry because I am me. I do not want to be me. When I cry, sometimes, it just take hold of me and I can't help it. Other times I may be 5,000 miles away and I can see where I am and it saddens me.

Will anyone ever care for me. Where is my mother? Where is my father? I need to be loved. Will anyone love me? I feel that I do not have a Mom. Therefore, I cry. I feel that other people have Mothers-- I do not --I have not had a
Mom since I was 2-years-old. I could not even walk straight yet I would fall on the floor and the teachers would laugh at me because I could not keep myself straight. So, I would bite them so that they would leave me alone. My Mom and Dad would get together in Hong Kong and leave me alone. I would sit up for 10 days straight and attack them like a crazy animal. They would ask how come I was up. I would say that I was waiting for them. I would draw pictures of animals. Strange animals, animals, and animals. I draw and draw. People like my drawings, but, I do not. I cannot draw happiness for myself.

I feel like a little baby. The words get stuck and cannot come out. I wish they could come. I wish I had a family. Will they adopt me in the Kai Dai ceremony? It would bring great shame upon my family. I do not know if I can live with the shame. But, can I live with who I am now? I can't. I can't end. I will not talk about that! I will not talk about anything at all. Do you understand?

**Family and Social History**

Jennifer is a 12-year-old female of Asian descent, who was born in Hong Kong. She lives with her 32-year-old father and 8-year-old brother. Her mother, who is 32-years-old, lives in Hong Kong. Jennifer's father and mother are still legally married. They have been married for 13 years. For the last seven years, Jennifer's mother has visited New York City annually for one week. Her mother comes to America on business; she is a dress manufacturer. Her father is a restaurant worker in New York City's Chinatown. He often works 16 hour days, 7 days a week, for what Jennifer describes as very little money.

Jennifer immigrated to New York City when she was 4-years-old. In addition to her father and brother, Jennifer also lives with her paternal grandfather, paternal grandmother (who is chronically ill and often hospitalized) and four aunts
who are the father's younger sisters. The aunts range in age from 16 to 28-years-old. Three of these aunts are full-time students. The school psychologist reports that Jennifer has a strong dislike for all of her aunts.

**School History**

Jennifer is an honors student. She excels in almost every major academic area. She is both the school Spelling and Math Bee champion. She has won numerous awards for her artwork and writings. Jennifer was originally an English as a Second Language student. She scored high enough on standardized LAB tests to be taken out of this program after only one year. Most students require 2 to 3 years to accomplish this course of study. Jennifer has spoken the English language for 7 of her 12 years.

Jennifer is a bright and energetic girl with talents in music and art. She enjoys singing, drawing, and working with water color paints. One teacher describes Jennifer as a child who suffers from severe swings in mood. It is reported that Jennifer can easily go from laughing to tears with little provocation. The school psychologist feels that Jennifer is nonfunctional once she reaches her frustration level or feels slighted. He reports that she possesses a great deal of anger. He believes that Jennifer is as unforgiving to herself as she is towards others.

Jennifer is categorized by the school based support team as a child who is at extreme risk. She reportedly has made suicidal ideations, although there are no known attempts. During a lesson I observed in Jennifer's classroom, I watched Jennifer cry hysterically with no provocation. I have also observed her run and hit her head against a wall while loudly yelling, "I wish I was dead." I have found her reactions to, and interactions with, any given situation wholly unpredictable.
Jennifer is a child who does not have many friends. She is a school service monitor, but is ostracized by this clique of popular students. She apparently does not fit in with their group. Jennifer makes every visible attempt to involve herself in extracurricular school activities. It can be said that Jennifer possesses a youthful exuberance for life. Unfortunately, this exuberance is combined with an affect that has been described by the school psychologist as depressed, and at times morose.

While this apparent state of depression has not adversely affected her grades in her school work, it is truly evident in her art work. The art that Jennifer has shared with me has been an odd contrast of joyful scenes of animals mixed with fantasy creatures containing dark colors and ominous themes.

Jennifer has attempted to work with the school guidance counselor and, most recently, the school psychologist with little success. Jennifer refuses to attend her sessions. Both the guidance counselor and school psychologist report that Jennifer is difficult to engage in any therapeutic activity and have dropped Jennifer from their caseloads.

**Reason for Referral**

Jennifer was referred for treatment in music therapy because of her poor self-image and inability to function in a classroom setting. She was referred by her classroom teacher, the school psychologist, and her school guidance counselor. All are concerned about Jennifer's sudden and self-abusive outbursts. The classroom teacher has described herself at wit's end. Home contact and long talks with Jennifer have not helped the situation. It is feared that Jennifer's suicidal ideation is more than an attention seeking device.

Jennifer's most pressing crises revolve around her graduation. Her termination from the school that has been her support system for the past 7 years
appears to be a major issue. Additionally, Jennifer is very upset her father will not
attend the graduation ceremony.

Physical History

Jennifer's school records indicate that there is no history of major illnesses,
hospitalizations, or accidents. She is a thin child, who is very tall for her age.
Jennifer wears eyeglasses. She requires these for correct vision. There are no
indications in her record folder that Jennifer is taking any prescription medications.

Therapeutic Summary

In her process, Jennifer made limited use of the digital music technology.
Her lack of use and interest in these technology is viewed as a case that is contrary
to the other four participants' experiences presented in this study. This alternate
case is presented as a finding that will be later referred to for grounding of the
theory of transparent technology. Despite her disinterest in the instruments,
Jennifer did use the digital music technology to create four separate musical
compositions. The subject matters of these compositions are varied.

In the first session, Jennifer wrote about the use of her imagination. In her
second session, she wrote a song about the pressures she experienced in school and
at home. A one sentence question of, "Oh, and what is fun?" was written the
fourth session. A song about adopting and reaching her goals was created in the
fifth session.

Jennifer used the QY-10, the Casio PMP 300, and the Macintosh computer
as instruments to create these songs. Jennifer refused to use the Octapad as an
instrument in her sessions. Jennifer named the QY-10 instrument "The Music
Creator."
Jennifer did not use the instruments to improvise with me in any session. Jennifer engaged in more of a verbal process than a musical one when she was not actively involved in song writing. Jennifer had great difficulty responding to my directions and contributions in her music making process. She was difficult to redirect and, at times, totally ignored my requests. Jennifer used much of her session time to tell anecdotes from her past and present experiences. She was often tangential in her narratives.

Jennifer was open and forthcoming in our discussions that focused on her family life. She was able to verbally bring to each session a new and important issue that was directly related to the crisis she was experiencing. Yet, Jennifer showed great resistance in working towards resolution or new methods of reacting to these issues.

Jennifer would not enter the music therapy room for her last session. She appeared to be unable to terminate from her school environment, her friends, or me. As her issues seemed to become more apparent, Jennifer relied less and less on any coping mechanism she had established for herself.

Jennifer’s preference in musical instruments was for the keyboard. She found it easy to work with and a complete instrument for her musical needs. She enjoyed her work with the QY-10, but found the machine too complicated to figure out. Jennifer used the Macintosh computer for word processing in our sessions. The Macintosh computer was not used to create music. Jennifer refused to use the Octapad.

Jennifer’s Trust

Jennifer’s issues of trust dominated her process. There was a constant ebb and flow that riddled Jennifer’s process with moments of uncertainty and moments
of insight. Jennifer used the first two sessions to test the levels of trust she could place with me. In these sessions, Jennifer shared several issues. These issues started with rather vague concepts. As our trust built, the concepts concretized.

A pivotal point in her process is when Jennifer trusted me enough to share her thoughts about a boy towards whom she was experiencing amorous feelings. After this sharing, Jennifer's process became polarized. She pulled away physically by coming to sessions late, missing appointments and eventually, not coming to sessions at all. Yet, in the brief period she did participate, Jennifer's shared with me a great deal of information concerning her situation with her family.

There was an enhanced level of trust. In session five, Jennifer's trusted the process enough to share her images concerning her abandonment by her family. This, unfortunately, was the end of the trust that Jennifer placed in me. She removed herself from interaction by refusing to attend our last session.

Jennifer's Awareness

Jennifer's process was difficult for me to observe. I felt at times, that she was polarized between two cultures--two cultures that did not have a place for her. In the old world of her Chinese ancestry, Jennifer was persona non gratia. Too bright, too difficult, and certainly too creative to be understood. In the new world of inner-city New York, Jennifer was an anomaly who attempted to compete only to end up defeating and flagellating herself. She had been thrust into a new world which she was neither prepared to enter nor had asked to be a part of.

Jennifer was the most reluctant participant of the group. She sought attention, company, and comfort in the process, yet she had difficulty accepting what was offered. Jennifer's work in the process enabled her to make several gains towards increased awareness of her issues. Jennifer discovered that she had
control of an issue that was affecting her daily life. Jennifer came to the realization that the extreme "pressure" she placed upon herself to excel in school was in fact, from within.

Jennifer came to a new awareness of her reasons for acting in the manner that she did. Jennifer told me that she was not aware of her reasons for suddenly crying. "Sometimes, it takes hold of me and I can't help it."

I watched as Jennifer came to a new understanding of her actions. This discovery set the stage for what I perceived as Jennifer's strongest moment of awareness—her insight that she, unlike most of her peers, grew up without a mother. More significantly, Jennifer realized she had grown to womanhood without the love she needed.

Jennifer's Internalization

Jennifer internalized many of her discoveries. When Jennifer discovered that the pressure she inflicted upon herself was more than she could bear, she engaged in a songwriting process. She wrote:

Here it comes again, the pressure. Which is confusing me from the problem I already had. I feel confused and nervous. I don't know how to end this pressure besides turning on my imagination. When I turn on my imagination, the confidence will start to appear, and therefore, the pressure will vanish.

This lyric points to both a realization and her proposed solution. The logic she presents in this lyric demonstrates signs of orderly problem solving; contrary to the manner in which she presents herself to the worlds around her.

Jennifer's realization that her crying was for no apparent reason led her to a verbal process that culminated in Jennifer's writing a one sentence lyric, "Oh, and what is fun?" Jennifer continued to explore this sentiment in her final session. As a result of this exploration, Jennifer was able to engage in a dialogue resplendent
with imagery. This dialogue began with words being "stuck" and "unable to come out." As Jennifer described her feelings, she equated them with animals at my direction. The further she explored this imagery, the less "stuck" she became. Her internalization of her awareness led her to see that she was in need of nurturance and love.

Unfortunately, Jennifer concluded that this love was beyond her. She wrote this lyric to describe her feelings.

You can never reach your goal unless something is in the middle. Whenever you are close to it, something is pulling you away from it. You don't see what it is, because it is invisible. Since you don't have the perseverance, you can't succeed.

When I asked Jennifer to interpret these words for me, she could not. This was as far she would allow herself to go in the short-term of her therapy. It appeared to me that this information she learned about herself was more than she could integrate at the time.

Participant: Susan

Personal Construct

Hi! My name is Susan. I like, you know, words and of course I like music. I like putting the words and music together. I really like this QY 10 sequencer. But what I really like most is to sing my music. Fast music, party music, let's go. Let's dance all night. Get down, get down, get down. Wow, I just got this sequencer and now I've written a song. I don't want to give the sequencer a name. Maybe it's a "Pal", but maybe it's not.

I'm lonely. A lot. I don't like being alone. I move from house to house a lot. Seems like every month I'm living somewhere new. It's hard for me to make friends and when I do, they're backstabbers. Like Jane, She goes and gets a new
bunch of friends and they're all snitty to me. You know, like they're better than me or something. This gives me hardships. Lots of hardships. Sometimes they feel like they are too much for me to deal with. You know what I mean? I mean I wouldn't kill myself or nothing. Well I thought about it. But, you know, not really.

So maybe my music isn't so fast now. Maybe I've got something to say?! My Dad left my Mom. I hate him now. He stinks. Sometimes I want to kill him! He caused my hardships. My Mom lets me see him sometimes, but I really don't want to. She really doesn't want me to have anything to do with him. Why doesn't he just call it quits? You know, let him stop ruining my life. He already messed up his. Why does he have to ruin mine?

I want to punish him like he punishes me. I mean doesn't he miss me? I haven't seen him in months. I don't want him to hear my song. But if I do let him hear it, I'll be real sure to let him know that's how I felt. Make him real sad. Make him feel guilty.

He still has to help my mother out with the money and all. And things that my mother has to do with him. He should really help her out more. With the money and stuff. You know?

This QY 10 sequencer is like a helping person. It helped me to write this song. It has the type of, you know. What it's called? Right, the tempo. It has the tempo I wanted and the rhythms and beats I wanted. There are other instruments, but, this one is different. The sounds and drum patterns were really cool. It was fun too. I liked sitting down and trying to figure out how to do something. It was challenging too. I really got to know how to use the QY-10 even though I couldn't really think of any good names for the thing. If I had a choice of playing this QY-10 or the keyboard or the pads, which I really didn't use that much, I choose the
QY-10. There's more on that I could use. You know, I wonder if it would be possible to change the machine so that I could make it work more like I do.

So, now you know what I think about it, me and Joe wrote a song that really says how I feel about me, my Dad and my Mom. I really don't feel that good. Yet. It took us alot of weeks to write it. I worked on it a lot at home. This QY-10 helped me alot to get this out. I like that I got all this stuff out. I feel better about me now. Nothings different. He still stinks, but I feel better now.

**Family and Social History**

Susan is a 13-year-old female of Italian and Irish descent. Her family has lived in America for several generations. Susan is an only child. Her mother, who is unemployed, and her father, an office worker, are divorced. They separated two and a half years ago. During that time period, there was a long and embittered battle.

In what has been described by the school guidance counselor as a protracted fight, Susan was pitted in the middle between her two parents. It appears that the parent's fighting did little to resolve matters. This left neither parent happy with the divorce settlement. This bitterness apparently lingers on and has had an impact upon Susan.

Susan describes her father's departure as sudden. Susan's recollection is that he and her mother were fighting for several days. He did not come home one evening. The next day, he packed his belongings and left for good. He has since taken up residence in Brooklyn approximately two miles from Susan's former address. Susan's father has been at this address since he left.

Unfortunately, the same cannot be said for Susan's mother. She has had a tumultuous existence since her husband's departure. In the two and one-half years
of separation and then divorce, Susan and her mother have moved six different times. It seems that Susan's mother has experienced difficulty in maintaining relationships with both male friends and Susan's grandmother. Every few months, Susan and her mother have had to leave the place they have called home. Currently, Susan and her mother have moved back with her maternal grandmother for a third time. They moved yet again this past summer to a new residence.

**School History**

Susan is an above average student with a high grade point average. This is a considerable achievement considering she has switched schools six times in the past three years. Susan has enrolled at the current school on four separate occasions.

Susan is not active in extra-curricular activities, nor is she part of a large circle of friends. For the school assembly, Susan sang an original, a cappella composition that she wrote to commemorate the Persian Gulf War. She did this with great pride and an equal amount of anxiety.

Susan's present teacher describes her as a very unhappy child. The teacher feels that Susan is confused and angry about her tumultuous life. The school guidance counselor describes Susan as an extreme perfectionist.

The teacher blames this perfectionistic attitude on Susan's mother who he views as overbearing. The classroom teacher corroborates this view. She relates that the mother consistently forces Susan to re-do school assignments until they meet the mother's approval. The mother's interpretation of the assignment often exceed the teacher's expectations. This has caused the teacher to request that the mother stop interfering with Susan's assignments. The teacher would like the student to operate at a thirteen year old level and not the mother's level.
Reason for Referral

Susan is a child who teachers describe as changing dramatically over the past year. She has gone from a happy, fun-loving child to a desolate loner. She rarely smiles and has apparently little joy in her life. She constantly fights with other children, primarily girls in her class, although some of the boys have incurred her wrath. Her teachers describe her as argumentative and at times, obstinate. There is great concern over the lack of communication between Susan and practically the entire school.

Physical History

Susan's school records indicate that there is no history of major illnesses, hospitalizations, or accidents. She is of average height and build for her age. There are no indications in her record folder that Susan is taking any prescription medications.

Therapeutic Summary

In her process, Susan used the digital music technology to create three separate musical compositions. The subject matters of these compositions are varied. In the first session, Susan wrote about being happy called "Dancing All Night." The second session brought about a song titled "Shallow." This song is about loneliness. Susan used sessions four, five, and six to write a song called "Hardships."

Susan used the QY-10, the Casio PMP 300, and the Macintosh computer as instruments to create these songs. Susan refused to use the Octapad as an instrument in her sessions. Susan refused to name the QY-10 instrument.
Susan did not use the instruments to improvise with me in any session. Susan engaged in an involved songwriting process in every session. Susan was responsive to my directions and contributions in her music making process. She was eager for direction. She sought help and direction in completing her compositions.

Susan was open and forthcoming in our discussions that focused on her family life. She was able to verbally bring to each session a new and important issue that was directly related to the crisis she was experiencing. Susan realized the potency of her issues, and worked diligently, both in and outside of session, to address her issues.

Susan was eager to complete her last song "Hardships." She found the work on the song an important vehicle for addressing her anger at her father. As the song developed, so did Susan's understanding of her issue.

Susan's preference in musical instruments was for the QY-10. She spent a considerable amount of time outside of the sessions mastering the operations of the system. Susan came to each session prepared with new ideas for lyrics or music that she had worked out on the QY-10. Susan used the Macintosh computer for word processing in our sessions; the Macintosh computer was not used to create music. Susan declined to use the Octapad.

Susan's Trust

Susan and I discussed trust in our first session. Prior to this, Jennifer had approached Susan to discuss their music therapy sessions.

SG She (Jennifer) always talks to me everyday, and asks me things like How do you like it?
JN Well if you do discuss things that go on in either of your sessions, I would like you to share them with me. These are your sessions and I will keep them confidential. It's fine if you share with her, but I want
you to know that I will not discuss your sessions with anyone else.
What we discuss in session is between us.
SG  Okay- What are the songs in the demo of the QY 10?

(Session Transcript)
The issue of trust resurfaced in the third session. Susan did not trust her
friends; this caused her concern. Susan discussed her lack of trust in what she
called "Backstabbers" for friends. This led to a songwriting process that was the
focus of the last three sessions.

Susan was a child who appeared composed and collected at all times—every
hair in place, her clothes were always neat and orderly. Underneath this controlled
appearance was a child who was concealing a tremendous hurt. A hurt that
anguished her so, that she could not bring herself to accept her reality.

Susan's Awareness

Susan came to her first session with a list of questions. She needed to
know everything she could about this machine I gave her. As we worked together
in session, Susan first came to the awareness that she was lonely. As this
awareness became familiar to Susan, along came the awareness that she was
growing up too fast.

Susan discussed issues concerning her relationships with peers. This led to
the awareness that this pattern of interaction was similar to the problems she
experienced at home. This realization opened a floodgate of awareness regarding
her issues with her mother and father.
Susan's Internalization

Susan found that awareness of an issue could be addressed into action by engaging in the act of songwriting. I believe that she found improvisation was not orderly or perhaps adroit enough for her. Susan discovered the potency of the songwriting process. She also discovered the benefits of internalizing her process. As she made these discoveries, Susan focused on creating music that helped to ease her pain. Susan found that working outside of the session with her lyrics and the QY-10 prepared her to interact with me in the session.

Susan directed me to create the elements of the music she could not create herself. Her actions grew more and more dynamic. She explored, refined, and ultimately finished a piece of music that resonated with all of the pent-up anger she bore for her father. I found the completed version of her song "Hardships" an invitation to hope combined with an end of her innocence. The lyrics speak of both the awareness she discovered and the actions she believes will help her in the future.

Moving around month after month.
When will all come to an end?
When will my life be the same as before?
When will it all come to an end?
Hardships. I've got hardships.
Everyday, every week, every month.
I was coming home school from school.
And I opened the door.
He said he was leaving, so he kissed me good-bye.
Is it my fault? What's happening?
Is it all mine?
Hardships. I've got hardships.
Everyday, every week, every month.
Doesn't he love me?
Doesn't he miss me?
After all, I'm his daughter.
Doesn't he love me?
Doesn't he miss me?
After all, I'm his daughter.
Hardships. I've got hardships.
Everyday, every week, and every month.
I haven't seen him in 12 weeks
How could he live without me?
As I said before-
Doesn't he miss me?
Hardships. I've got hardships.
Everyday, every week, and every month.
Didn't he ruin my life enough?
Why doesn't he just call it quits?
Doesn't he care me?
I know I don't care about him.
Hardships. I've got hardships.
Everyday, every week, and every month.
Oh, Hardships.

(Session Transcript)

Participant: Timmy

Personal Construct

Man, I didn't do it! I didn't do nothing. Always saying I'm starting shit. What
you want with me anyway? Oh, if I talk to you you're gonna let me use all of this
stuff? Now you're talking. In that case, my name is Timmy. You know Mr. N,
you be my best boy. I wish you my father.

This music machine is alright. I think I'll call it "Justice." My
neighborhood is tough. People sell drugs in my neighborhood. It makes me feel
bad and it frightens me. I wish it would stop. I like to play these drums things.
They kickin'. I made that up? Okay. I need to give this drum thing a name too.
Let's see--the Rapping Nagler--no the Beat Nagler--that's it.

I named it after you. Now I have Justice and the Beat Nagler. Let's pick a
beat and try it out. You know, you can play along with me. I like this music. It
makes me feel alright. I don't want to use any of this other stuff. These pads and
Justice do me just fine.
I wish I could take Justice home with me. I can't. My Mom, she needs money. You know, she got the taste. Anyway, she'd take this and sell it real quick. It wouldn't last but 10 minutes in my house. No sir. Yeah, I smacked that boy upside he head. He called my Mom a Ho. Saying shit 'bout seeing her on the corner. I kill that motherfucker he talk 'bout my Mom again.

I like hitting these pads. The beats in Justice are alright, but I do like hitting this bad boy. Yeah I'll play a game with you. You wanna know who I am? Well you know, I never do nothing wrong. Everybody always be bothering me. I wish I were the teacher so I could get everybody else in trouble. People always getting me in trouble. I'm always innocent. Well one time I wasn't, but that don't really count. You know what I mean?

Who I want to be? I be a strong man with muscles and a mustache and lots of girls. I'll live in a big ass ol' house in Coney Island, right next to the Projects. I'll own the Ring Toss game at the arcade. I'll drive a big car, uh huh, and I'll live with my mom, dad, sister and brother. Why you always asking me the same old stupid question? I'm fine. Do you hear me? I'm fine. Fine as fine can be. Damn what you know anyway? You know Mr. N, you be my best boy. I wish you my father.

Family and Social History

Timmy is a 9-year-old male child of African American descent. Timmy is the youngest of three children. He has an older brother who is 15, and a 16 year old sister. Timmy's mother, aged 35, is currently unemployed. His father's whereabouts are unknown. He left the family home shortly after Timmy's birth, and has had infrequent contact since then.
Timmy also lives with a 45-year-old male who is a family friend. His role in the family structure is unclear. It is also unclear as to how consistent this person’s presence is in the household. It is reported by one social worker that Timmy’s mother is a known prostitute. This report has not been corroborated by any school or police authorities. It has also been reported that Timmy’s mother is a crack cocaine addict. Again, there has been no substantiation of this report.

In a face to face interview with Timmy's mother, I found her to be incoherent and difficult to engage in conversation. She repeated several times that her son is a good boy and has not been in trouble before. I assured her that he was not in any trouble and that I was attempting to learn more about his home life and family situation.

She was not forthcoming with information. I did learn that Timmy is left unsupervised most of the time. The only supervision at home I could discern, is provided by his older brother. Timmy does not have a curfew or bed time. He is allowed to stay out on the streets of a particularly violent neighborhood until he tires.

**School History**

Timmy is currently enrolled in classes for children with special needs. These classes are commonly known as special education classes. These classes are limited to no more than 11 students. It is required by law to provide individualized instruction programs for each student.

One psychologist has placed Timmy’s functional level as moderately retarded. His IQ range is 83 and his skills level is at the pre-school level. He can neither read nor write. His only math skills consists of basic counting abilities.
Timmy has deficits in every academic area. His school attendance is extremely poor.

On days that Timmy does come to school, he is often wearing soiled clothes and is in need of a bath. Other children in his class refuse to sit near him; he has strong body odor. It took 3 years to have Timmy placed in special education classes. His mother did not come to three separate evaluations and his case was closed each time since the family moved shortly after the missed appointments.

Timmy presents as a difficult child. Timmy has had verbal and physical altercations with both male and female teachers. He bullies smaller children to gain their belongings and money. Timmy has been known to provoke larger children into fights for no apparent reason.

**Reason for Referral**

Timmy has been referred to treatment in music therapy because of his inability to express his needs and interact with anyone in the school setting. This referral came from the classroom teacher who is very concerned about Timmy's welfare.

**Physical History**

Timmy has had several accidents that have caused hospitalizations. He has broken both arms and one leg. He has required a skin graft in the heel of one foot that was injured in a bicycle accident. Timmy suffers from what has been reported by one social worker as serious otitis: acute, not affecting bilateral hearing. I have found Timmy to have very little ability to hear in his left ear.
Therapeutic Summary

In Timmy's process, the digital music technology was used to improvise musical encounters. He engaged in some song writing, but the primary focus was consistently improvised duets. Timmy used all of the available instruments to create his music.

In the first session, Timmy listened to the demo sequences on the QY-10. He created a song about how he is frightened by drug dealers in his neighborhood. In his second, third, and fourth sessions, Timmy improvised nine separate pieces of music. He used the Octapad as his primary instrument. In the fifth session, a musical game was introduced. Timmy and I played a call and response game based on Timmy's answers to questions that I asked. I posed open-ended questions starting with topics such as: I am, I feel, I see, etc. Timmy answered the questions by singing and playing the Octapad to the syllabification of the words he sang. We played this game briefly in the sixth session. We also improvised as we did in the earlier sessions.

Timmy used the QY-10, the Casio PMP 300, the Octapad, the Proteus One Sound Module, and the Macintosh computer with Vision Software as instruments to create these songs. Timmy named the QY-10 instrument "Justice."

Timmy did not engage in any extended verbal processes. He preferred a musical process. Timmy showed resistance to engaging in discussions about most subjects I suggested. Often, Timmy would begin playing as I was speaking. Timmy also showed resistance to my attempts at redirection, both musically and verbally.

Often, Timmy entered the music therapy room agitated from events in his classroom. He did not separate easily from the situations in his classroom. Yet, he
would decline opportunities offered him to work on his problems of interaction with his peers.

Timmy's preferred musical instrument was the Octapad. It appeared that he enjoyed hitting the pads, and the immediate gratification he received from playing. He enjoyed the music available on the QY-10, and played with many of the preset musical patterns. Timmy used the Macintosh computer for sequencing, using Vision software in one of our sessions.

**Timmy's Trust**

Timmy's development of trust was a gradual process. As with the other participants, his trust built as the sessions developed. Yet, his trust remained unspoken. Timmy appeared to be reticent in most encounters with me. I found myself constantly wondering what was really going on beneath this passive exterior. Timmy seemed to be aware of his emotions and cognizant of his needs. Yet, Timmy found great difficulty interacting with me on a sustained basis.

In most encounters, Timmy presented to me as defended. That is, his posture and mannerisms were constantly in a guarded position. He often answered questions with one word answers. It appeared that the more I tried to engage him, the quieter he became. At first, I received answers that I felt Timmy perceived I wanted to hear. As he grew to trust me, Timmy found that is was safe to become less defended and interact with me.

**Timmy's Awareness**

Timmy did not verbally interact with me in a sustained fashion for the first three sessions. If he did make any discoveries, he did not share them with me. In his third session, Timmy and I improvised together. This time, I had recorded our
improvisation on the Macintosh computer using Vision software. When Timmy saw a graphic depicting his music on the screen of the computer, he exclaimed; "Did I do that?" I replied, "All of those dots are what you did." Timmy seemed incredulous. It was all he could do to say, "Wow!"

This was the first moment of awareness I had witnessed Timmy experience. The presentation of his music in a concrete, colorful graphic, made for Timmy, the connection of his music and how it looked. This awareness continued to develop in Timmy's music. He found new ways to express himself. Timmy remained defended in verbal interactions. His pattern of one word statements and little verbal discourse began to frustrate me. I decided to confront Timmy in session about this. I had spoken to his teacher prior to the session and learned what he had done that day.

When I confronted Timmy with this information, he appeared agitated. I immediately suggested playing the game "I am, I feel." This led Timmy to an awareness that I viewed as the apex of his process. Timmy was able to verbalize his images in both present and future tenses, of himself, his family and his world. He did this at length and used music to create these images. This awareness, was Timmy's most significant work in his process.

**Timmy's Internalization**

Awareness for Timmy, did not always lead to a discernible internalization. Specific actions relating to his arrival at a place of awareness were few. When Timmy discovered that he could in fact make music that was expressive and pleasing to him, he continued to improvise and create more music. As this continued, Timmy's actions remained consistent. A major change occurred in Timmy's patterns of interactions when the confrontation and improvisation
regarding his world took place. Timmy changed his way of interacting with me. This was most evident in his actions of music making. Timmy found new images and dynamics in the music. He improvised openly and in a less defended way.

Timmy's diminished cognitive capacities may have played a role in his ability to act on his discoveries. Yet, I believe that he may have simply been overwhelmed. There was an abundance of information to process concerning Timmy and his world. This, combined with the wealth of music making possibilities in terms of access, instruments, and timbres, may have been more than Timmy was prepared to encounter.

Summary

The theory presented in this chapter illustrates the findings as related to the grounded theory of the therapeutic process. The findings are used to demonstrate and clarify the relationships between the complex processes of using digital music technology as instruments in the music therapy process.

The theory that arose from these findings suggests three distinct stages of therapy that are present in this therapeutic process. These stages are:

1. Trust
2. Awareness
3. Internalization

As viewed in this theory, each of these stages were present in the processes of the participants. While the stages are sequential in their theoretical formation, the conceptual framework in which they reside allows for flexibility in the sequencing of events.
CHAPTER VIII
THE GROUNDED THEORY OF TRANSPARENT TECHNOLOGY

The concept of transparent technology came to my awareness as I conducted music therapy sessions with the participants of this study. I noticed that the participants' musicality, as expressed in the music created with me, was influenced by their interactions with the digital music technology. My observations and the subsequent analysis of these interactions led to the formation of this theory. The theory is that digital music technology need to appear transparent to a patient in order to facilitate more creative and successful musical experiences. This theory is supported by the findings presented within this chapter.

Genesis of the Theory

In my clinical work prior to this research, I was aware of the marketing terms of computer and music equipment manufacturers. "Easy to Use," "User Friendly" and the all encompassing, "All You Will Ever Need in a Computer" were advertised to me in seductive ways. I wanted to believe the hyperbole. Yet, the findings of this study are replete with anecdotal evidence that supports the converse of these manufacturers' claims. Instead, I frequently heard patients describe the music technology as: "Too difficult," "Too complicated," and "It made me frustrated."

Prior to this study, my bias was that technology was a powerful tool, not easily used for clinical music therapy work in its present state. I was in need of musical instruments which would allow me to be a clinician who uses technology.
Instead, at times, I found myself to be a technologist who did clinical work using digital music technology.

In order to facilitate this study, I needed to set my old bias aside. The “laying down” of this bias became a liberating experience. This experience allowed me to see the technology in a new and perhaps more enlightened way. It became evident to me that there is an exigency for digital music technology to meet the needs of patients in ways they can easily understand.

Before I began this inquiry, I was frustrated in my attempts to integrate technology in the clinical music therapy process. It was through the process of gathering and analyzing the data in this study, that I had realized I had discovered a new way of working. In prior work, I adapted to the confines and limitations of the digital music technology’s operations. I worked within these limitations and created work around solutions to problems I encountered with the operation of the technology. In this study, it became evident that the technology needed adaptation in order to meet the needs of the participants. These adaptations affected both, the patients’ and my way of working.

The Theory of Transparent Technology

In keeping with the basic tenet of this theory, digital music technology can be considered transparent when they satisfy the following five conditions. First, the instruments require specific enhancements to appear to a patient in an uncomplicated and facile fashion. Second, the instruments must maintain a high degree of sonic and musical integrity. The term musical integrity refers to the instruments’ ability to produce timbres and preset patterns in a style that is culturally congruent to the patient’s musical tastes. Third, the instruments must aid in the facilitation of the therapeutic process. The instruments need to be fluid and
adaptable to the needs of the patient in a moment to moment manner. The instruments need to provide the therapist with tools that enhance the music making.

Fourth, the instrument needs to be gratifying to play. The gratification can take place on an emotional, sensorial, or spiritual plane. Fifth, the patient needs to receive a successful experience from his or her interactions. The success of the experience can be determined by how the patient is able to express him or herself in the musical process. When the combination of these factors are met, then the instrument can be considered transparent. This state of transparency is achieved when a patient can make music with an instrument requiring very little effort to learn. Ideally, the instrument requires no more skills than those required to strike a drum or depress a key on a piano.

This theory is based on the comparison of the categories and subcategories that emerged in the process of data analysis. Table 3 demonstrates the categories and subcategories as they appeared prior to the formation of this theory. As I read through the process notes and transcripts, I was struck by the overwhelming amount of data that was based on the operations of the instruments. The participants and I had all incurred different experiences using digital music technology.

As two of the three core categories emerged, it became apparent that there were trends in the data that suggested the formation of a theory. As I analyzed the data again as grouped in the subcategories, I found that there was a relationship between the musical structures used by the participants and their choices of imagery, naming and selecting instruments, preset patterns, and timbres. This relationship led to the demarcation of these five conditions regarding transparent technology. Each condition is based in the experiences of the participants.
Table 3
Core Categories and Their Related Subcategories as They Relate To The Theory of Transparent Technology

<table>
<thead>
<tr>
<th>Musical Structures</th>
<th>The Participants' Relationships Digital Music Technology</th>
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<tbody>
<tr>
<td>Improvisation:</td>
<td>Imagery Associated with Digital Music Technology</td>
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<tr>
<td>Solo, Duet &amp; Trio</td>
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</tr>
<tr>
<td>Directed Musical Activities: Inside &amp;</td>
<td>Instrument, Preset Rhythm Patterns, and Timbre Choices</td>
</tr>
<tr>
<td>Outside of the Session</td>
<td></td>
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<tr>
<td>Music Making Using Pre- Composed</td>
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<tr>
<td>Music</td>
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<td>Songwriting:</td>
<td></td>
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<tr>
<td>Complete &amp; On-going</td>
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The five conditions will now be juxtaposed to the participants' experiences as viewed in the categories and subcategories. This discussion will take place to provide the necessary grounding for this theory.

**Transparent Technology Employed in this Study**

The technology used in this study were gathered from units readily available for use by the participants. As noted earlier, this grouping of equipment was made to provide instruments that appeared to meet the participants' musical needs. This grouping of equipment is by no means a definitive statement concerning the possible groupings of digital music technology.

There are many other makes and models of instruments that use similar technology to produce music through digital means. All of these instruments create sounds in similar ways. All of these digital music technology use similar mechanical methods to interact and create music.

Therefore, the theory of transparent technology as demonstrated with these instruments also pertains to other types, makes, and models of digital music technology. Although this theory did arise from a specific equipment configuration, there are axioms that are transferable to other digital music technology. The properties of these specific instruments can be considered representative of most digital music technology.

The first trend that appeared in the analysis of the data was that the participants all engaged in one of four musical structures when interacting with digital music technology. The transparency of the instrument affected the participants' comfort levels with the instrument. This level of comfort had a direct impact on the musical structure each participant chose. This discovery eventually led to the formation of the five conditions I associated with transparent technology.
The following is a discussion of the factors found in the musical structures that led to the development of the conditions.

In this study, digital music instruments offered a broad mix of sonic textures and timbres. These timbres are greatly enhanced when used in conjunction with the preset melodic and rhythmic patterns commonly available in digital musical instruments. These preset patterns help to define the musical structures analyzed in this study. The findings demonstrate that the participants engaged in different structures of music making when creating music using digital music technology.

The music created in this study can be structured into frameworks that define and categorize musical interactions. Some examples of these structures are improvisations and directed songs as found in choral music. In this study, I created music with each child during the course of the music therapy sessions. This music served as an integral component of the therapeutic process. The process of creating music was enhanced through the use of digital music technology.

The music used in the music therapy process was either passively experienced or actively created. The active music making which took place during the sessions has been placed into four structures. The manner in which the music was created determined its placement into the structures. The four structures of music making analyzed in this study were:

1. Clinical improvisation in either a solo, duet or trio,
2. Songwriting with suggested themes, improvised lyrics, lyrics written outside of session, and/or lyrics written in the session,
3. Performance of precomposed music by the participants through singing, rapping, or musical instruments in addition to the human voice, and
4. Directed musical interactions used in the therapeutic process.
These structures all share similar attributes. All of the music was created exclusively through the use of digital music technology. All of the music made employed only the instruments available in the session. The children did not bring in any other instruments from home, nor did they request to use any instruments that were not already present in the music therapy room. In the sessions, the only instruments that were used are detailed in Diagram 3.

During a music therapy sessions, the children are encouraged the children to set the pace and tone. They do this with my guidance. Music is not prepared for use in the session unless a request from the child is received. I frequently receive requests from children for music created outside the session. In the majority of my clinical experiences, a large portion of the music created in sessions was from outside sources, including music heard on television and the radio. In this study, this was not true. In the 30 sessions that were analyzed in this study, all of the created music was written by either a child or myself. Two of the children, Donald and Susan, brought in music that they had written at home, but the majority of the music was written during the actual sessions. The conditions concerning the transparency of the technology can be viewed as having direct impact on whether the participants engaged in active or passive music making.

With this in mind, it is then a significant finding to note that most of the music created in the music therapy sessions of this study can be classified as active music making. That is, the participant creates or alters many aspects of the music that he or she is experiencing as it occurs. Conversely, passive music making activities are those in which the participant does not actually create the music used in session. Instead, he or she experiences the provided music in the role of a listener. An example of this is the use of prerecorded music not created by either the child or therapist.
Only one piece of music that could be considered passive music that was found in the analysis of the 30 sessions in this study. Digital music technology was used to facilitate this passive listening experience. This music, titled "Demo Sequence," is a prerecorded piece of music that is in the sequencer memory of the Yamaha QY-10. The music was anonymously written at the Yamaha factory and is part of the operating system of the unit. This music was passively listened to by all five participants at my direction in each of their first sessions. I used the Demo music to introduce the QY-10 to each child. All five children chose the word "fun" to describe listening to the Demo sequence.

Both Timmy and Donald chose to return to this music in later sessions as an interactive experience. Donald chose to use the Demo music to play along with Octapad in his fourth session. He accompanied the music in its entirety. He played the Octapad to mirror the cymbal and bass patterns used in the sequence. Donald told me the sequence was "fun to play with." Timmy also chose to play along with the Demo sequence in his fourth session. He played drum pads for the first 12 measures and then switched off the sequence to play with the keys on the QY-10.

It is important to note that while these four structures provide a theoretical viewpoint towards understanding the process of music making as related to transparent technology, they are not "written in stone." In reality, these structures are rather flexible in nature. The children freely chose a structure of music making by their needs and interests. My primary concern was the children's therapeutic process. These structures often overlap chronologically. In some cases, the different structures can progress concurrently in the same therapeutic activity.

An example of this is illustrated in Chapter VI in Susan's profile, and later in Appendix D. In her fifth session, Susan recorded a performance of a song she wrote about her father. She made this recording to share with her mother. As she
sang, Susan stopped and decided to change the lyric. Through this action, Susan crossed “between the lines” of demarcation and worked in two of the structures, performance and songwriting, as well as participating in a directed musical interaction. Since it was a spontaneous action, it can be said that Susan was also improvising and therefore, she had encompassed all four structures simultaneously.

The level of transparency each of the digital music technology possessed influenced which of the four musical structures was chosen by the participants. Examination of each of the five conditions of transparent technology demonstrates that the participants' choices in the expressive possibilities, combined with the sonic quality, facileness of the instrument, successful experiences gained, and levels of gratification, had direct impact on their therapeutic processes.

Therefore, the link can be made that the transparency of the technology used in clinical music making can directly impact the music therapy process. To illustrate this contention, I will first describe the participants' music making within the musical structures as they related to their music therapy processes. Then, there is a discussion of the relationships of the various instruments as they appeared in the structures. Finally, there is a discussion concerning the adherence of the digital music technology to the conditions of transparent technology as it pertains to the participants’ music therapy processes.

A constant throughout the process of data analysis was the presence of clinical improvisation. Clinical improvisation is the act of creating music through spontaneous composition as a part of the therapeutic process. The music created can be reflective of the emotions experienced in the moment as the music unfolds. The improvisations that transpired in session were a combination of solo improvisations, duo improvisations, or trio improvisations which contained sequenced accompaniment as the third entity.
The solo improvisations that took place were performed by either a child or me. Ann, Donald, and Timmy all improvised in a solo fashion. These children chose a keyboard and the Octapad for the improvisations. The participants who declined to use the instruments to improvise were Susan and Jennifer. They both found different structures to create music with the provided instruments. Susan focused her attention and energies on songwriting in all six of her sessions. Jennifer attempted briefly to improvise on the Octapad in her third session. She stopped after two notes; she explained that she was not comfortable improvising.

I improvised in a solo manner primarily to express musical ideas as part of the therapeutic context. At times, I used solo improvisations to initiate contact or reintroduce a musical theme from an earlier encounter.

There were three different configurations of improvised duets that appeared in the analysis of the sessions. The first type involved a child and I improvising music together. The second type of duet consisted of a child improvising music to a sequenced accompaniment. The third type of duet occurred when I improvised music to a sequenced accompaniment. A trio, or a triologue, was formed when I improvised music with a child along with a sequenced accompaniment.

Ann, Donald, Susan, and Timmy all participated in at least one form of a duet. Ann's improvisations consisted of duets with me starting in the third session. This duet was followed by a triologue in the same session using the QY-10 to provide drum patterns for playing. The music improvised in this session led to a songwriting process. Sessions four, five, and six all contained duets played by Ann and me. She preferred to use the Octapad to accompany my keyboard playing in these improvisations.

Donald created improvisations from the very first session. He used the small keyboard on the QY-10 to create music with various drum patterns. This
continued in sessions two and three. Donald switched between the QY-10 keyboard, the Octapad, and the Casio keyboard for these improvisations. In the fourth session Donald improvised with the Demo sequence. He then used rhythm patterns in the QY-10 to continue his improvisations.

The fifth session featured a series of solo, and duet improvisations. Donald declined to use the QY-10 for continuing the former trios. Donald’s sixth and final session contained over 25 minutes of improvised duet music. All of the duets were played directly with me. I played the Casio keyboard; Donald played the Octapad.

Timmy created improvisations in sessions two, three, four, five and six. He engaged in duets and trios in all of these sessions. The duets primarily consisted of Timmy playing Octapad and me playing the keyboard. Timmy also improvised with me while we used the computer. The computer was used to create a series of sequences which were looped for him to play along with in a series of trialogues. I played keyboard in these improvisations.

Overall, the participants who used clinical improvisation in their music therapy processes did so with a great deal of satisfaction. The digital music instruments served to meet their musical needs. This was evident in the comments made by the participants. Each child expressed satisfaction with his or her accomplishments in music making. The thematic material these improvisations contained was strikingly similar. This can be attributed to several factors. Most significant is the similarities in the skill levels that each child possessed. None of the children had used any of these instruments to create music prior to their involvement in this study. Ann and Timmy were relatively new to creating music. Donald had prior experience in playing several instruments, but had not created music in the time since his father’s passing.
Some of the structures used were directed musical interactions. These structures encompass music that has been prepared by the therapist for the facilitation of a participant in the context of a session. Directed musical interactions have the distinction of having the boundaries of music making as determined by the therapist. The participant has the option to alter the interaction as he or she sees fit, but the overall schema of the interaction is defined by the therapist. This musical structure can contain precomposed songs and musical interactions that include vocalizations, movements, and instruments played at appropriate cues.

I directed two musical interactions in the course of the 30 sessions. They are: "Musical Portraits" and an interaction I labeled "I am, I feel." Ann and Timmy participated in creating "Musical Portraits." The interaction consisted of the participants suggesting a name for characters associated with the sounds of the instruments. After the characters had been identified, the participants created musically improvised portraits of the identified characters. Ann created these portraits in her fifth session for the characters "I Don't Know" and "Maria." Timmy participated in this interaction in his sixth session using the characters "Sonic Hedgehog" and "Spiderman."

The musical interaction called "I am, I feel" was played by Timmy in his fifth session. The following session transcript details the interaction. This session transcript illustrates the use of clinical improvisation combined with a musical interaction to create an activity used to redirect a child who has exhibited resistance to creating music. For a complete transcription of this interaction, see Appendix E.

Timmy enters this session angry. He had a substitute teacher who did not allow him to draw or color at his desk. He told me that he was Fine- fine as always, the same thing. I asked him if he would like to try something different today. He agreed. I proposed the idea of playing a musical game.

TJ Yeah. What game?
JN It's a musical game. Pick an instrument.
TJ I want this (Octapad).
JN Now, I'm going to say to you I wish or I am or something with the word I in it. Then you are going to play the music that goes with it. Okay?
TJ Yeah.
JN Let's try the first one. I am-
TJ (Plays 5 notes sings) I am Timmy.
JN I wish-
TJ (Plays 5 notes sings) I wish I were the teacher.
JN You wish you were the teacher?
TJ (Plays 3 notes sings) I wish I were the teacher.
JN I feel -
TJ (Plays 5 notes sings) I feel like myself.
JN I like-
TJ Mr. Z (Plays 7 notes sings)
JN I don't like-
TJ Mr. B (Plays 6 notes sings)
JN I don't like Mr. B because-
TJ I hate him (Plays 11 notes sings)
JN playing keyboard and singing- I hate him because-
TJ (Plays 3 notes sings) He gets on my nerves.
JN (Plays keyboard and sings) How does he get on your nerves?
TJ (Plays 13 notes sings) He thinks I bother everybody
JN (Plays keyboard and sings) Why do you bother everybody?
TJ (Plays 9 notes sings) I don't bother everybody.
JN (Plays keyboard and sings) So, why does he think you do?
TJ (Plays 15 notes sings) People always getting me in trouble.
JN (Plays keyboard and sings) People always getting me in trouble?
TJ (Plays 5 notes sings) Yes- yes -yes -yes -yes -yes!
JN (Plays keyboard and sings) Yes, yes yes yes yes yes? How do they get you in trouble?
TJ (Plays 5 notes sings) They say I always bother them.
JN (Plays keyboard and sings) Do you do anything to bother them?
TJ (Plays 5 notes sings) No-no no-no-no-no.
JN (Plays keyboard and sings) So why do you get in trouble?
TJ (Plays 3 notes sings) I don't know
JN (Plays keyboard and sings) So, you are always innocent?
TJ (Plays 1 note sings) Yes.

(Session Transcript)

The performance of precomposed music is differentiated from the other musical structures presented in this Chapter by two criteria. First, the intent of the person creating the music is to perform his or her rendition of a precomposed song for a listener. The second criteria is that the music is not improvised; it was written prior to the performance.
In the sessions studied, there were two musical interactions that could be viewed as performances. The first performance was done by Susan in her sixth session. She performed and recorded her song "Hardships" in its entirety as a culmination to her therapeutic process. This performance required sequenced rhythmic and harmonic accompaniment from the QY-10. Susan and I wrote this prior to this session. I played the Casio Keyboard and Susan sang her lyrics.

The other performance I found in the session transcripts featured Donald rapping a song. He did this performance during his third session. This performance was Donald's song "Flo The Ho." Donald rapped the lyrics to this song with drum sounds and rhythm accompaniment provided by the QY-10.

The most popular form of music making in this study was songwriting. Songwriting is the creation of music and lyrics written as a part of the therapeutic process. The music and/or lyrics can be improvised at first, but, what differentiates songwriting from clinical improvisation is the process involved in developing the song.

The songwriting process requires that the participant returns to the themes that were created, for further development. The process of songwriting entails the development of both music and lyrics. An idea was expressed, modified and developed into a complete song. Each child who began a song completed the development of the idea to his or her satisfaction.

Four participants, Ann, Donald, Jennifer, and Susan wrote songs both in and out of their sessions. Since each child had a QY-10 unit to use away from the session, continued work was possible outside of the session. Ann, Jennifer, and Susan all worked on song material outside of their music therapy sessions on the QY-10. Donald worked on his song material outside of the session by using two record turntables and records. An older friend of Donald's is a "Disk Jockey" who
works in nightclubs. Donald used this equipment when he visited his friend. Most of the songs written were completed in one session. One song, written by Susan, was worked on in sessions three, four, five, and six.

The initiation of themes in the 11 songs written in this study came from each child's therapeutic process. Several of the songs written did not involve my directing the child to the song writing process. The child came to session with a set idea for a song. My role became the facilitator to bring the song from its inception to completion.

An example of this is evident in the process of Ann. During Ann's last session, she expressed the idea for a song and then developed this idea to a complete song. This is demonstrated in the following session transcript.

JN  We only have several minutes left is there something else you would like to do?
AR  Well, we said we going to write about the shirt and we never did that.
JN  You're right. What would you like to do?
AR  The shirt said "Try walking a mile in these-".
JN  What would you like to say about that?
AR  You'll never try walking in my shoes, I don't know, (pause) (types).
JN  You'll never? Who are you saying this to?
AR  But if you are listening, I'm right and you're wrong. (Types) (pause).
JN  You did-
AR  What?
JN  What are they wrong about?
AR  You'll never get a chance to walk in them because they were made just for me. (Types)
JN  Are these good shoes or bad shoes?
AR  Good.
JN  Were they always good? (Types) (Speaks words) These are good shoes, these were always good shoes.
AR  So never try walking a mile in my shoes. (types)
JN  Is that the end?
AR  Yeah.
JN  Is there anyone to whom this is written?
AR  No.

(Session Transcript)
As this transcript illustrates, there were moments in the therapeutic process when working on a song appeared to be appropriate to the child's needs. During these times, the child was encouraged to develop ideas in song-form. When a child made a statement I felt could be developed into a song, I suggested a combination of lyrical and musical ideas. The theme in session transcript of Ann's song was suggested by me in a previous session. This entailed suggestions pertaining to either the idea of writing a song or the further development of a presented song idea.

Nine of the eleven songs written in this study were each completed in single sessions. Ann wrote three separate songs. In session one, she wrote about her school and math work. In session two, Ann brought in lyrics she had written at home about her sister. In session six, Ann wrote a song about walking in her shoes.

Donald wrote two songs. One song, "Flo the Ho," was written outside the sessions and performed in session three. Donald also wrote one song during session three titled "Dancing' to the Beat." The following are the lyrics to "Flo the Ho."

You see Flo she's what you call a Ho
If you want you can you can book her,
It's not too strong.
For a dollar she can suck on your wallet.
She aint give you a fuck for a buck,
That will cost you two.
She say come on jack,
I need me a whack. I be fixing,
Few dollars -you get you some pussy.
She bust in my crib, My Mom got real upset,
So she busted the room. My Mom got real sick.
So, I chased her with a broom,
She said don't be a sucker, I'm looking to get wired.
That's when Flo she took off her dress.
Man, she be a mess.
I said Flo, Flo don't be a pest,
You aint going to have no success.
She be Flo, Flo the Ho, Flo, Flo the Ho.
Uh huh, Uh-Huh

(Session Transcript)

Jennifer wrote three songs. The first song was written in her first session. It was about using her imagination. The second song, written in the fourth session, was called "Oh, What is Fun?" The fifth session was used to develop a song about reaching goals.

Susan wrote two songs over all six sessions. The first song was written and completed in the first session. The song is titled "Shallow." The second song, written through sessions two to six, is titled "Hardships." This song began as a project Susan developed at home with the QY-10 and then brought to her sessions.

The findings presented in this section concern the structures of music used by the participants to create music. All of the participants of this study made music using digital music technology. The findings show that the participants established ways to use the musical instruments to express their needs. The process of creating music for each participant entailed five very different processes. The music created by the participants was grouped into four different structures of music making. These structures illustrate the applications of the digital music technology as experienced by the participants.

Another trend that emerged is that all of the participants attempted to name their instruments at one point or another in their processes. Ann and Susan's inability to name their devices mirrored issues that arose in their processes. Jennifer's lack of commitment to the name she chose was also a reflection of her process. Jennifer's lack of ability to sustain a relationship to any instrument is affirmation of the need for transparency in digital music instruments. The issues expressed by Jennifer were best addressed in a verbal process. The verbal process
undertaken by Jennifer was immediate and gratifying for her. The musical process
Jennifer created for herself with these technology was not.

This section is an exploration of the findings as they relate to the
participants' relationships to digital music technology as observed in the music
therapy process. The findings show that children have preferences for different
musical instruments, preset musical patterns, and timbres. These preferences are
influenced by their relationships to the digital music technology.

During the process of analysis, two subcategories emerged with regard to
the participants' relationships to the digital music technology. The findings
presented in this chapter is an extrapolation of these subcategories. The original
intent of the subcategorization was to discern not only the impact of these
technology, but also how the participants interacted with the devices. This
subcategorization was done as a step in the analysis. The intent was to depict the
manner in which the devices were received, viewed, and ultimately, used by the
participants as musical instruments. It became apparent that the participants formed
relationships to the devices. It was also apparent that they had preferences for the
instruments, timbres, and preset patterns that were available from the machines.

The participants' relationships to the digital music technology is based on
two recurring themes that appeared in the course of the analysis. These themes, the
imagery associated with digital music technology, and the anthropomorphization
and naming of the instruments had a significant impact in the formation of this
theory.

The images the participants shared were either spontaneously offered or
came about as a product of my therapeutic interventions. These interventions were
based on my assumption that the creation of images is a basic human function.
I base this assumption on the following tenets. We constantly negotiate both abstract and concrete images in all that we do. Our frame of reference is the mediator of our understanding of these images. In describing his concept of "Humanistic Biology," Maslow (1971) explains, "We know very well how easy it is to anthropomorphize, to project into the animal the observer's human wishes, fears, hopes, prejudices if we are dealing with dogs or cats and more easily with monkeys or apes" (p. 16).

In the Piagetian sense of "child as philosopher," a child will construct the world in terms he or she can understand. A child places people and objects alike into understandable aggregation of reality. These realities are arranged to create a world. In the world of the child in crisis, the realities may be disorganized and even distorted. The images created arise from within this world. The introduction of an object from the outside realm of this experience can be discomfating. It can also lead to change. I suspected that the introduction of digital music technology into their therapeutic processes would have a distinct impact. This is based on the further assumption that there is confusion regarding the status of a device associated with a computer. Is the object animate or inanimate?

But the computer is a new kind of object, a psychological object. It is a thing (just a machine), yet it has something of a mind. The computer is betwixt and between, an object with no clear place in the sharply dichotomized system, and as such it provokes new reflections on matter, life, and mind." (Turkle, 1990, p. 70)

Since the devices used in this study are, in essence perceived as computers, I determined that it was necessary to monitor their impact. To gauge this impact, I encouraged the children to explore their imagery associated with these devices.

Several children associated images to their relationships with the digital music technology. These relationships can be viewed in two groups. The first are the images associated with the timbres created by the participants while using digital
music technology. Later in this chapter, there is a discussion of the timbre choices made by the participants. The second group of images relates to the anthropomorphization of the instruments. Several of the participants associated qualities to the instruments that were unique to their individual experiences.

The images associated with the timbres are as varied as each child's therapeutic process. All of these images are the invention of the participants. These images were either offered spontaneously or as a response to an open-ended question that I posed. An example of this type of question is, "What does the music sound like to you?"

Ann made an association with the timbres she played in her third session. As the session transcript illustrates, she associated the timbres she played with the qualities of a clock. I asked Ann an open-ended question about her experience. Ann responded, that to her, the timbres she played on the Octapad sounded like a clock. The sound she heard was "tick tock, tick tock." Another association made by Ann occurred in her fourth session. Again I posed an open-ended question:

JN  Is there anything that you would like to share with me about your music?
AR  Not really.
JN  Well then can you describe it in one word?
AR  Nothing.
JN  Okay- If the music was an animal, what kind of animal would it be?
AR  I'd pick many types of animals that it could be.
JN  Tell me more about that. You used many sounds and notes- how do they relate to the animals?
AR  I would pick a lion walking slowly towards a predator.
JN  What did that sound like?

(Session Transcript)

Ann made one more association. In her final session, Ann engaged in a songwriting process based on a recurring theme of shoes. The theme was first explored in relation to a saying written on a tee-shirt she wore in her third session. The shoe theme apparently carried over to an association with the image of a "tap
show." Ann associated the sounds and rhythms of QY-10 pattern 63 with that of
dancing in tap shoes. This association led to another songwriting process based on
the recurring shoe theme.

Donald's associations with images were more literal than others. That is,
the associations were founded in matters from his everyday life. Donald made four
different associations to images with the timbres. Three images related to
qualitative statements. Donald found the music to be "fresh" and "funky fresh."
Both of these terms denote a positive image for the music and timbres. Donald also
felt that some timbres were "corny." This is not a positive reaction; it denotes a
negative image associated with the timbre. The fourth association made by Donald
was for a series of drum sounds. Donald attempted to play a drum roll on the
Octapad. This was done so that he could play, "You know, like a drum roll for an
introduction."

Jennifer did not show any interest in a particular instrument for more than
one session. Jennifer's reluctance to use the instruments was reflected in her
process. Jennifer did make one association between the timbres and her feelings.
This interaction began as a discussion of her feelings towards the timbres. As the
image developed, it moved away from the timbre association and led towards her
identification of her associations with her emotions.

JN Imagine that the feelings that come to you when the words won't come
out are an animal. What kind of animal would the sounds be?
JW Dolphins.
JN Would they big or little dolphins
JW Baby one.
JN Would they be out in the ocean or in by the shore?
JW In the ocean.
JN Deep in the ocean or in shallow water.
JW Not too deep.
JN Is this dolphin alone or with other dolphins
JW Only two.
JN Who are they?
JW The two larger ones- the sisters and brothers.
JN Where is the mother?
JW Um-Somewhere in the deep deep ocean digging for food or something.
JN Does the baby dolphin see the mother?
JW See, the baby dolphin is out playing around. The mother and father are out finding food.
JN Does the mother and father share the food with the baby?
JW Yes.
JN So, the mother and father take care of the baby?
JW Yes.
JN But, the Baby is alone right now?
JW Yes.
JN How does the baby feel?
JW Lonely. The brother and sister are teenagers.

(Session Transcript)

This association led to a songwriting process concerning reaching goals that Jennifer had set for herself in her schoolwork. The image of the dolphin did not reappear in the song lyrics. It did however contribute to the lyric's development.

Susan related an association to the music in her second session. She became aware that the timbres in the music she created helped her to feel sad. She claimed, "This music really puts me in the mood, the mood to feel shallow." Later, in session three, Susan found that the music "made me (Susan) feel like dancing." In the fifth session, Susan related that the timbres I played on the electric piano sound reminded her of the theme music from the television show "Doogie Howser, M.D."

To continue the exchange of ideas concerning the participants' images, I asked each child to name the instruments. The genesis of this activity was unintentional and devoid of any larger agenda on my part.

Jennifer was the first child I worked with in the sessions analyzed in this study. Chinese was her primary language, therefore, she had difficulty with many of the consonant blends found in the English language. She couldn't say the words "music sequencer" or "synthesizer" with any level of comfort. I asked if there was another name for the devices we used. She readily chose a new name for the QY-
10. Jennifer's naming of the device gave me the idea of naming the instruments. It appeared at the time to ease her hesitancy in approaching the instrument. Based on Jennifer's experience, I suggested the idea of naming the instruments to the other participants.

I focused primarily on naming the QY-10. The suggestion was made, partially, in an attempt to allay the other children's inhibitions and anxieties concerning the use of this device. My supposition was that a child would interact with the device more readily using a name that was of his or her choice. Additionally, this name would be recognizable by both of us. A common name would make the child's interaction with the device and me more fluid and adaptable.

Therefore, all of the participants were asked to name their QY-10 devices. Ann made several attempts at naming the device, but she did not give a name to her QY-10. Donald named his QY-10 the "1000 Music Machine." He did this quite spontaneously in the first few minutes of his first session. Donald used this name throughout his sessions to refer to the QY-10.

Jennifer labeled her machine the "Music Creator." She said that she named the QY-10 this because it helped her to create music. Jennifer did not use this name again in her subsequent sessions. Susan named her QY-10 "Pal" in the first session. She changed her mind in the third session and could not come up with a new name for the device. I tried to assist Susan in naming the device. I asked, "If the QY-10 was a person, what kind of person would it be?" Susan replied, "A helping person." Yet, even this identification did not assist Susan in finding an appropriate name.

Of all the participants, Timmy was the most eager to give out names. He not only named his QY-10 "Justice," but he added a name for the Octapad. He titled the Octapad, "Beat Nagler" in my honor.
The findings of the children’s preferences for instruments, preset patterns, and timbre choices was further analyzed by a comparison of the choices made by the participants throughout the course of this study. Each participant displayed unique preferences in his or her choices of instruments, preset patterns, and timbres. Despite the participants’ individual styles, many similarities of choice appeared in the analysis of the data. Two participants preferred the Octapad, two preferred the QY-10, and one participant preferred the Casio keyboard.

The instrument of preference for Ann was the Octapad. Ann liked the fact that she could hit the pads and "get music." She found the keyboard to be to her liking also. "It's different, you can just pick the ones you like."

Donald’s overwhelming favorite choice of instrument was the Octapad. "They're cool, I like to hit them." Donald did not try the keyboards. Jennifer’s choice of instrument was the keyboard. "I liked the keyboard because the keyboard had everything. It has drums, music, and sounds. I like the keyboard because it is easier to work with and it has keys."

Susan’s instrument of preference was the QY-10. Susan was invested in her songwriting process. She did not use any of the other instruments. Apparently, Susan found what she needed to create her songs in the QY-10, and remained focused on her work.

Timmy, on the other hand, tried every instrument that was available and moved between them quite frequently. His preferences were not entirely clear. Throughout the course of the sessions Timmy expressed preference for the Octapad. Yet, in the final session, Timmy told me he preferred the Octapad to the keyboard, and the QY-10 to the Octapad. His only reason was that "It (QY-10) does more."
The use of preset patterns along with timbre selections are the essential elements that comprise digital music technology. Defining a preset pattern are the rhythmic, harmonic, and melodic musical events that have been sequenced in time.

The use of the preset patterns in this study are limited. The patterns are limited to the resident patterns in the internal memory of the QY-10. These are patterns 23 to 99. Although preset patterns were available on the Casio keyboard, all of the participants declined to use them. Apparently, these patterns did not meet the same musical needs as those on the QY-10. Additionally, the participants declined to use the combination of the Macintosh computer and Vision software to create preset patterns. This may be due to the participants unfamiliarity with the software.

These preset patterns contain musical vignettes that are between two and eight measures long. Each pattern can have up to eight separate parts that are called tracks. Each track is used to simulate different instruments played in an ensemble. There are four tracks available on which to write melodic patterns. Additionally, there are four tracks that are considered backing tracks. These tracks have predetermined functions. They are called: CI, CII, BS and RT.

RT is the Rhythm Track which is meant to simulate a drummer playing a set of drums. BS is the Bass Track which contains low pitches and timbres. These tracks normally contain monophonic bass accompaniments. CI and CII are Chord Accompaniment Tracks. These tracks can contain a variety of timbres playing melodic, harmonic, and rhythmic figures. These figures vary with the pattern's style of music.

Each pattern represents a different style of music. The styles that are represented in the QY-10 are: ballads, country, funk, heavy metal, hip hop, house, jazz, Latin, rhythm and blues, rap, rock, soul, and swing. The preset patterns can
be linked together to form a song up to 99 measures in duration. The patterns can be changed in tempo, in volume for each timbre, and key signature.

The following section in the presentation of the findings is meant as an illustration of the patterns and their respective numbers. These findings will first be presented as a listing of numbers and then discussed as to their relevance. The presentation of these findings as numbers serves a dual purpose in the demonstration of the participants' preferences for preset patterns.

This presentation first serves to initiate the reader to the numerical system used by the manufacturer of the QY-10 to describe the preset patterns of the QY-10. The second purpose of this presentation is to illustrate the figurative associations the participants needed to make a between the number used to name the pattern and the music contained within a preset pattern. This association was necessary in order to use the preset pattern in a musical context without engaging in random selections of the preset patterns. The preset patterns could only be selected by directly choosing a preset pattern's number or by toggling up and down on "yes" and "no" keys through the patterns in order. This was a source of frustration for the participants since all of the preset patterns did have names associated by the manufacturer with the numbers. All of the participants referred to the patterns by these names even though it was not possible to select the patterns by these names.

Ann selected seven different patterns over four different sessions. They were patterns 93, 88, 37, 46, 43, and 77. All of these patterns were selected only once. The patterns were used in sessions one, two, three, and six. In sessions four and five she did not use any patterns on the QY-10. Donald selected patterns for use in sessions one through four. He did not use any preset patterns in sessions five and six. He used six different patterns over these sessions. Donald selected
patterns 26 and 38 once each. Patterns 33, 56, and 66 were repeated twice, pattern 25 was repeated three times.

Jennifer used preset patterns in sessions one, two, and four. She did not use any patterns in sessions three, five, and six. She selected patterns 26, 33, 48, and 54 each once. Susan used preset patterns in all six of her sessions. She selected eight different patterns. Patterns 25, 50, and 93 were selected once each. Pattern 92 and 98 were selected twice. Pattern 26 was selected three times, and patterns 54 and 99 were selected four times. Timmy also selected eight patterns. He did not use any preset patterns in session five. Timmy selected patterns 24, 29, 47, 70, and 89 once each. He selected patterns 54 and 68 twice, and, pattern 26 three times.

These findings in and of themselves are insignificant. They constitute nothing more than a series of selections without rhyme nor reason. The significance of the findings lies in the similarities and trends in the selections. Here, the data does point to trends that demonstrate the impact of the digital music technology. Table 4 depicts the patterns selected more than once.

As shown in the table, pattern 0, or no pattern was the most popular choice amongst the patterns. Nine of the 30 sessions analyzed in this study did not use any patterns in the music making. Pattern 26 was the most popular pattern with eight selections. This was followed by pattern 54, with seven selections.

Examination of the two most popular patterns, 26 and 54 shows that the two patterns could not be more dissimilar. Pattern 26 is titled "L. A. Pop." It is described in the L. C. D. display of the QY-10 as "Pop Funk." The tempo is 106 quarter notes per minute (qpm). Conversely, Pattern 54 is titled "Nu Age." It is described in the display as a "New-age ballad." The tempo is 80 qpm.
These patterns sound very different in my listening experiences. To me, Pattern 26 relates an ebullient and bouncy theme. The pattern begins with a series of staccato "horn" blasts. The chordal accompaniment is a series of syncopated sixteenth notes played on very bright and colorful timbres. This accompaniment is arranged over the two chord tracks. The drumming is very loud and present. The bass guitar figure is bright and has a strong syncopated feel present in the rhythmic structure. The snare drum cracks strong accents on beats two and four of the measure. There are four measures in the phrase.

Pattern 54 has a very muted and subdued presence. I found this pattern more relaxed and ethereal than pattern 26. The drums and bass guitar are present, but in a quiet way. The accompaniment has a lilting and soothing quality about the timbres and rhythms. The overall pacing and feel of this pattern is one that is conducive towards a serene and tranquil state of being.

The participants music making experiences with these two patterns closely parallel my experiences. I attempted to present these patterns in an unbiased, neutral way to the participants. As my familiarity with the patterns grew, I began to develop preferences for certain patterns. Pattern 54 was one of my favorites. I tried to not let this influence my interactions with the participants.

The songs that were written using these two patterns point to a trend. For example, Susan's first song about party music used pattern 26. Her song about hardships used pattern 54. The mood set by these patterns appears to have had direct impact upon the tone of the music making. Participants worked on different therapeutic issues when they selected patterns with quicker tempi and brighter timbres. Issues involving anger, fear, and frustration appeared when the participants created music with pattern 26.
Conversely, participants working with preset patterns of slower tempi, tended to work on more reflective and introspective issues. The music appeared to have had a direct impact on the participants state of being. It appears that the combination of the timbres used in the patterns along with the tempo of the music contributed to this change in the participants moods.

The participants' choices in timbres are illustrated in Table 5. In this table, each participant is paired with the choices made over each of the six sessions. The timbres the participants chose were provided by the Proteus One and the Casio. Of the 16 different timbres chosen by all of the participants, eight were produced by the Casio. The other eight were produced by the Proteus. The Casio timbres are: Bells, Brass, Chorus, Electric Piano, Harpsichord, Reed, and Synth Ensemble. The Proteus timbres are: Bass, Jazz Guitar, Latin Percussion, Multi Percussion, Piano, Rock Drums, Strings, and Vibraphone.

At first I suspected that the timbres which were readily available would be those chosen. The Casio's timbres are displayed in even rows with labels marking the location of each timbre. The labels are over bright red buttons. There is one button associated with each timbre.

The Proteus One has a small knob that is turned clockwise to list each of the timbres. The timbres' names appear on a small L. C. D. display. The timbres must be viewed sequentially from numbers 1 to 196. All of the timbres selected from the Proteus One were in the first 40 number locations. Yet, I was surprised to see an equal number of Casio selections to the Proteus One selections. The Casio is easier to associate a name with a timbre. It is also much easier to select a timbre.
Table 4
Frequency of Selections

PATTERNS SELECTED MORE THAN ONCE

FREQUENCY

PATTERN NUMBERS
Table 5
Preferences in Timbres

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<th>Ann</th>
<th>Susan</th>
<th>Timmy</th>
<th>Jennifer</th>
<th>Donald</th>
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<td>Synth Ensemble</td>
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My surprise ended when further analysis uncovered that all of the Proteus One timbre selections were made from the Octapad and not the Proteus One's front panel. The Octapad had been preset to use either the Casio or the Proteus One. The participants who played the Octapad chose to use the Proteus timbres. I had preset four of these timbres on the pads. On the occasions that the other four timbres were used, I made the timbre changes for the child at his or her request.

The findings of this study demonstrate that the participants had preferences for different instruments, preset patterns, and timbres that were based on their relationships with digital music technology. Comparisons of the participants patterns of relationships demonstrated definite patterns of preference in their interactions with digital music technology. These preferences in instruments, preset patterns, and timbres were noted, analyzed, and described. The significance of these relationships were evidenced in the participants' images, anthropopathisms, and naming of their chosen instruments.

Furthermore, Donald and Timmy's names of the instruments can be viewed as indicative of their comfort level of working with technology. It may appear coincidental that the two male participants in the study were comfortable with the concept of the technology having animate qualities. Yet, the likelihood of coincidence diminishes when the reader considers that of the five participants in this study, Donald and Timmy actively used computers on a regular basis. Both Donald and Timmy play video games and have home video systems that they use on a daily basis.

Additionally, in comparison to the other participants, Donald and Timmy both found ways to utilize the technology in different musically expressive ways. At first, I thought Donald's and Timmy's diminished cognitive capabilities had an impact on their eagerness to use technology to compensate for skills they lacked.
However, this thought was negated by the problem solving abilities they both demonstrated in using the instruments.

It would appear that this would give Donald and Timmy the advantage in mastering the operations of the QY-10. Surprisingly, this was not the case. Of the five participants, Susan achieved the highest level of mastery using the QY-10. I have based this ranking on the level and range of musical activities that she accomplished using the device. Susan reported that she worked with the unit on average two hours per day. She went about learning the unit in a methodical and organized way. She sought out additional materials and insight from me on the operations of the machine.

Susan's skill level was followed by Ann's. Ann sought to learn the QY-10 and spent a considerable amount of time working with the unit. She was quick to learn new concepts. Ann was intuitive in the manner in which she worked. An example of this intuition is evident in the way Ann went about solving a problem. I failed to check the QY-10 before I gave the unit to Ann. Someone had left the unit's internal metronome set to "Click Always." Ann assumed that the device was broken. Yet, when she brought the problem to my attention in her second session, she had already figured out how to turn off the metronome. There were no instructions in the manual on how to change the metronome setting; she figured this out by herself.

Donald and Jennifer both began to master the system and then apparently lost interest. Both claimed that the system was too complicated to operate. When I offered additional assistance to Donald and Jennifer they both declined. Consequently, they both expressed dissatisfaction with the operations manual provided by Yamaha with the QY-10.
Timmy never fully explored his QY-10. I attribute this to two factors. First and foremost was his preference for other instruments. These preferences will be detailed later in this chapter. The other significant factor is that Timmy was not able to take his QY-10 home after school. He was allowed to use his QY-10 daily in his classroom, but Timmy's classroom teacher reported that he often declined to do so.

All of the participants used the same instrument, the QY-10. Therefore, it should not be a surprise to discover that all of the participants experienced many of the same difficulties operating the QY-10. All of the participants showed a dislike for the small piano-style keys on the device. All of the participants, with the exception of Susan, found the QY-10 "too complicated" and "too hard." Ann summed up the group's feeling when she told me, "The only thing I hated about it (QY-10) was that you had to go to all this trouble to do anything. It's very confusing. Like changing the volume or the sounds." She also stated, "Well the QY-10 only plays music. It doesn't have the same feel as the keyboard. The keys are very small and few."

The primary complaint was that it was difficult to determine what function a switch or button had. This is attributable to the multi-function capacity of each switch and button. Since the unit is compact, the designers of the QY-10 apparently felt they could save space and expense by allowing the switches and buttons to perform several dissimilar functions. Depending on which mode the unit was in, a button or switch has a different function. All of these factors impeded this instruments' ability to appear as transparent to the participants in their music making.

In Chapter III, I described manipulations that I performed to the settings of the Octapad for use in the sessions. The Octapad was configured to play specific scale patterns with specific instruments. These manipulations allowed the
participants to use the Octapad either as configured, or to explore new settings. The settings of this instrument did not vary from my initial settings. There were four possible settings available on the Octapad.

Even though I showed each child how to change the settings on the Octapad, none of the children chose to change them. I did not actively direct or encourage the participants to change the settings. The lack of change in the settings led to a sameness in the pitches used in the improvisations. Although the children did switch among the four settings available on the Octapad, the combinations of the chosen timbres did not match the intent of the setting. For example, setting b was designed to be used with the drum sounds on the QY-10. Although each child was informed of this design, many ignored this and chose other timbres which provided alternate, and at times, musically unique combinations.

The Octapad appeared as a transparent instrument to some of the participants. The pads were easy to strike, and the available melodic content was appropriate for the participants' musical expressions. There was a high degree of immediate gratification. There was also a high degree of musical satisfaction. This was evidenced in statements made attesting to the participants' pleasure and success experienced using the Octapad.

When the skills required to use the Octapad are compared to the skills required to use the Casio or the QY-10, there are marked differences. The QY-10 required a substantial investment in the amount of time, effort, and energy to reach a familiarity with the unit. Several participants who showed preferences for the QY-10 opted to switch to the Octapad as their primary instrument. The Octapad was the instrument of choice for improvisation. Donald and Timmy, the two participants who improvised the most, used the Octapad almost exclusively.
Another trend present in the findings demonstrates that the majority of participants preferred the timbres that were of superior sonic quality. Yet, in this study, the participants were willing to sacrifice superior sonic quality for the instrument which was easier to use. The Octapad was the more transparent of the technology instruments. All participants responded similarly when presented with easier access to timbres of a superior sonic quality. Understandably, the timbres of superior quality were chosen when combined with ease of access.

When I offered assistance in selecting and interacting with the more difficult device, the assistance was accepted. The participants showed a distinct preference for the timbres of the Proteus One for use with the Octapad. The participants all felt the timbres of the Proteus One were superior to those of the QY-10 and the Casio.

Therefore, the findings show that the majority of the participants prefer access to an instrument that offers the best timbres when linked to an instrument that provides easier access. As noted in Chapter VI, only Susan made use of the QY-10 in every session. However, she chose to use the timbres of the Proteus One for use in her final recording of her song "Hardships."

This demonstrates an important factor in framing the theory of transparent technology. It is not enough to provide ease of access when creating music via transparent technology. Of equal importance is the quality of the timbres used in creating the musical experiences.

Additionally, the theory supports concerns regarding transparent technology's ability to aid in the facilitation of the therapeutic process, by being fluid and adaptable and enhancing the musical experiences in the therapeutic process. Digital music technology offer the possibilities of therapeutic experiences that are unlike those of any other instruments. The technology offer auditory and visual
feedback of the music as it is created. This feedback provides the participant with an immediate depiction of the effect of their actions.

Timmy was resistant to improvisation with me. I suggested that we create an improvisation and record it via MIDI to the Vision sequencing software on the Macintosh computer. Timmy played music and then watched as the music appears on the screen. A look of astonishment crossed his face.

TJ Did I do that?
JN All of those dots are what you did.
TJ Wow!
JN Would you like to add another sound.
TJ Yeah.

(Session Transcript)

This encounter became a pivotal point in Timmy's therapeutic process. The transparency of the technology allowed Timmy to experience the power of his music-making in a graphic and meaningful way. Timmy was able to see his creation. The technology aided in taking the experience from the intangible and abstract, and concretized the experience in a manner he could comprehend.

This type of therapeutic intervention can only be made with transparent technology. The combination of the ease of use of the Octapad, the socially superior quality of the Proteus One and the reconfiguration of the Vision sequencing software I performed made the difference for Timmy.

Summary

The theory of transparent technology is supported by the findings of this study. Digital music technology are considered transparent when they satisfy the following five conditions.

1. The instruments require specific enhancements to appear to a patient in an uncomplicated and facile fashion.
2. The instruments must maintain a high degree of sonic and musical integrity. The term musical integrity refers to the instruments' ability to produce timbres and preset patterns in a style that is culturally congruent to the patient's musical tastes.

3. The instruments must aid in the facilitation of the therapeutic process. The instruments need to be fluid and adaptable to the needs of the patient in a moment to moment manner. The instruments need to provide the therapist with tools that enhance the music making.

4. The instrument needs to be gratifying to play. The gratification can take place on an emotional, sensorial or spiritual plane.

5. The patient needs to receive a successful experience from his or her interactions. The success of the experience can be determined by how the patient is able to express him or herself in the musical process.

When the combination of these factors are met, then the instrument can be considered transparent. This state of transparency is achieved when a patient can make music with an instrument requiring very little effort to learn. Ideally, the instrument requires no more skills than those required to strike a drum or depress a key on a piano.

The level of transparency present in an instrument has direct impact on the musical structure chosen by a patient. This impact was observed in the choices of timbre, preset patterns and instruments made by the participants in relation to the music making.

An instrument that met these three criteria was used by the participants of this study. The Octapad did appear to the several of the participants as a transparent instrument. When the participants made use of this instrument, their therapeutic processes were enhanced. It does not appear that the specific instruments used in this study are the only instruments that can be viewed as needing transparent
operations. Therefore, the theory of transparent technology is relevant to all types of digital music technology.
CHAPTER VIII
CONCLUSIONS AND RECOMMENDATIONS

This dissertation has set out to investigate how digital music technology are used in the music therapy processes of children who are in crisis. The knowledge gained from this investigation is substantial. This study of a complex set of frameworks has illuminated the possibilities of a new means of facilitating the therapeutic process. The participants' processes that were observed in this study were compelling. Despite their musical interactions via inanimate machines, the beauty of each participants' humanness came to light. For many of the participants, their therapeutic experiences were rewarding.

Music was created that was evocative of feelings, substantial in process, and healing to the spirit. This short-term intervention entered the lifeworlds of these participants in unique and varied ways.

There are several conclusions that may be drawn directly from the data. First and perhaps foremost, is that the data conclusively supports that the inclusion of digital music technology in the music therapy process of children who in crisis is a viable alternative to traditional instruments. Secondly, the timbres created when making music using digital music technology are culturally congruent to the lifeworlds of the children who were studied. The data appears to support the conclusion that this finding may be generalizable to other adolescents of a similar cultural awareness.

Third, it can be concluded that the stages of therapy that the participants engaged in are meaningful and relevant to their issues and needs. The data demonstrates that the issues brought to session were germane to the crises that the
participants endured away from the music therapy setting. Fourth and finally, the
data supports the conclusion that the current status of digital music technology is
what can be perceived as a mixed blessing. There are all the features and
opportunities available to those who can access them. The state of transparency in
present technology is marginal at best. Before wide scale acceptance can be
considered by the therapeutic community occurs, there is a need for a fundamental
shift from the oblique to the transparent in the way digital music technology are
manufactured and configured for use.

This study has aided in developing my understanding of the use of digital
music technology. My understanding of applications of digital music technology
for children in crisis has increased. The session work with the children has led to
an awareness of new ways to reach the children’s needs. The questions raised
concerning the digital music instruments themselves were discussed in the
preceding chapters. These questions include explorations of digital music
instruments’ role in the process of music therapy. The following is a discussion of
these questions in relation to the theories that were derived from their exploration.

The two grounded theories concerning the applications of digital music
technology with children in crisis are supported by the findings presented in this
study. The presented theories served to illustrate several complex processes
concerning interactions between the participants and the digital music technology
under study. There are great opportunities and benefits available when digital
music technology are used in the music therapy process. There are also many
inadequacies of these technology as musical instruments for clinical music therapy
work. These inadequacies can be stratified to two conditions; the aesthetic and the
pragmatic.
Pragmatically, there is a disparity between the musical needs of the child in crisis and the capacity of the digital musical instrument. At times, ready and available access to the parameters of the devices allowing a child to create music were not available. The prerequisite skills associated with digital music technology appeared to require greater technical facility than working solely with traditional instruments.

Additionally, there were so many matters to consider that were not normally associated with creating music. What seemed like miles of wires, cables, battery adapters, and computer hardware preoccupied my presession thoughts. System software, program updates and incompatibilities, and a plethora of other concerns kept me busy from session to session. At times it seemed that keeping up with all of the workings of the instruments would consume my session time with the participants. Yet, it did not. My presession planning and due diligence to the fine details allowed these matters to not hinder the sessions.

Additionally, within the theory of transparent technology arises a distinct and perplexing problem. Implicit in the offering of a technology that is transparent to a patient is the contradiction that the patient views the music making as indicative of the "real world" music making process. Therefore, it may be difficult to gauge how the patient is responding to the concept of ease of access to the creation of music. If the intent of coactive music making for the sake of expression and involvement in the therapeutic process is not made clear by the therapist, confusion may arise for the patient.

This confusion may lead the patient to believe that the process engaged in therapy using adapted instruments is indicative of the music making process. To leave the patient with an unfounded and untrue illusion would do a disservice to the patient in regards to the creation of music without the coactive music making of a
therapist. This issue is not exclusive to music therapy using digital music technology. Often, using traditional instruments, the therapist will create music for and with a patient that are out of the musical lexicon of the patient. Yet, the pervasiveness of the wide vocabulary of sonic abilities of digital music technology does appear to amplify the opportunity for misinterpretation as to the intent of the music therapy process.

Aesthetically, there is a foundational problem that impacts digital music technology. This aesthetic problem is based on elementary physics. In Chapter III, there was discussion concerning the differences in how acoustic and electronic instruments produced sounds. In this discussion, distinctions were made in the methods used by each type of instrument to create sound. The discussion concluded that all sounds function similarly at the point of their creation. An object displaces air and sound emanates. To further this discussion, one needs to look at the impact of a created sound once it displaces the surrounding air.

Sounds produced by digital music technology cannot create a natural overtone series. The sound produced through an amplified speaker cannot physically resonate and sustain the energies required to produce a natural overtone series. Instead, the overtone series is produced synthetically through a variety of signal processing methods to approximate the natural series.

This is where the fundamental problem occurs. A piano resonates. It is wood, metals, rubber, and felts all vibrating sympathetically to produce a desired timbre. The physical sensation of playing, being, and listening to a piano is a unique experience. The sounds that are produced by a piano move naturally through space and time. Conversely, a synthesizer or sampler cannot vibrate its internal mechanisms to resonate and sympathetically produce sounds. All sounds that are perceived and heard are created by the paper cone of a speaker reacting to
shifts in electrical current. There are very different kinesthetic, tactile, and neurological experiences involved in playing an acoustic instrument and one that is based on digital music technology.

These differences in the physiological experiences derived from a sound impacts the aesthetic value ascribed to a sound. The aesthetic value ascribed to and associated with any phenomenon in art is highly subjective. "My view is that the aesthetic value of an object is not a function of the actual degree of gratification obtained from it...The amount of aesthetic value possessed by an object is a function of the degree of aesthetic gratification it is capable of providing in a particular experience of it (Beardsley, 1982, p. 23).

The aesthetic value possessed by the objects, the digital music technology, functioned to a high degree of aesthetic gratification for the participants of this study. The instruments offered to the participants proved capable of providing aesthetically gratifying experiences.

Yet, I am convinced that a higher level of aesthetic value can be achieved from musical interactions with digital music technology. One possible way to develop this higher level of aesthetic value is to employ transparent technology in combination with traditional instruments. The combination of the two types of instruments allows a patient the transparency and rich sonic vocabulary of digital music technology along with all that traditional instruments have to offer. The widespread availability of these instruments and the benefits witnessed in this study outweigh the technical problems encountered in the sessions.

The benefits of the use of digital music technology were present in the music created by the participants of this study. The analysis of this music led to the formation of four categories of musical structures. The participants chose to engage in directed musical interactions, improvisation, performance, and songwriting in the
music therapy process. This structuring of the applications of digital music technology represents continuity and applicability to music therapy methods originally developed for nondigital music technology instruments. Therefore, methods that have proven successful in treating children in crisis may now benefit from a new genre of musical instruments.

The findings show that children have preferences for different instruments, preset musical patterns, and timbres was evidenced in this study. These preferences were influenced by the participants’ relationships to the digital music technology. The relationships of music technology in the music therapy process to the participants demonstrated that the participants were able to integrate these instruments into their music making. This was evidenced by the participants associations of images with and preferences for the technology they encountered. The participants demonstrated distinct preferences for instruments, preset rhythm patterns, and timbres. All of the participants were able to create music in both a culturally and therapeutically relevant manner using digital music technology. This was evident despite the problems encountered with the operations of some instruments.

The problems encountered by the participants demonstrate the need for transparent technology. Implementation of these transparent technology remains another matter. As this study has demonstrated, transparency can be reached if the prerequisite conditions are met. The participants found expressive ways to use the instruments in their sessions. The instruments were used for a variety of purposes and with a broad range of timbres.

The three distinct levels of therapy that occurred in the therapeutic process served to demonstrate that in a short-term process, substantial gains can be made. The gains, as they were demonstrated in the findings, appeared in terms of
establishing trust, developing awareness, and internalization of actions taken on awareness. Issues and needs were identified, explored, and discussed. As is expected in a short-term, re-educative therapy process, no resolution of issues or needs, nor remedies of problems were established in any of the processes of the participants.

What did occur, appeared to have substantial impact on the understanding of all of the participants. The participants were able to place trust in an male adult. They were also able to explore and learn new ways of looking at themselves and their worlds. It can be concluded that the use of digital music technology did impact this process. This was most evident in the immediacy and availability of the participants’ entry to the process. All of the participants were able to create music within their first session. More significantly, they all demonstrated satisfaction with this music. The music created was congruent to each of the participant's cultural awareness.

All of the participants were able to create music without my assistance. They were also able to interactively create music with me. This was due, in part, to the transparency of one of the instruments, the Octapad. This instrument proved amenable and malleable to each unique situation presented by the participants.

In conclusion, the use of digital music technology has proven effective as a musical instrument for use in the music therapy process of children in crisis. If the conditions of appropriateness of timbre and preset patterns are met with the transparency of instrument interface and use, a powerful new tool for clinical intervention is available.
Reflections on the Method

The application of a constant comparative method to this study was not easy to complete. This is not to say that this method was inappropriate or unproductive. To the contrary, I believe that this method was not only the most appropriate, but the most conducive to demonstrating the participants' processes. As a researcher, I can definitively say the process of qualitative research using constant comparative method was a worthy and rewarding experience. This process has provided me with insight and direction for future work that I believe will take me into the next century.

Recommendations for Further Study

I recommend the continued study and application of qualitative research method for clinical music therapy work. This form of research enables clinicians to see themselves and their patients with veracity. It also serves to shed light on issues not discussed in this document such as intuition, clinical orientations, and other forms of therapeutic intervention. Qualitative research allows the experiences of music and therapy to come to light and be viewed as they exist in real life.

A key issue not addressed in this dissertation that warrants study were the literary and verbal aspects of the participants processes. There was an abundance of material concerning the literary and verbal aspects of the participants' therapeutic processes. While there was in depth analysis of the themes, images and lyrics of the participants, there remains a wealth of material that could possibly add greater depth and clarity to understanding the process of music therapy.

The focus of this paper was not of these important aspects. The choice to not include this material was an intentional one dictated by the nature and focus of
the study. Concerns for future study implicate that a primary focus of the literary, verbal and to a large extent the para-verbal material present in the music therapy process warrants further investigation. Theorist who incorporate the development of language and cognition such as Vygotsky (1962), Chomsky (1972), & Gardner (1983) may prove beneficial to the development of further understanding.

I also recommend that continued study in the area of music therapy using digital music technology is necessary before wide scale implementation of these technology can occur in all forms of clinical music therapy. A fundamental area of necessary study is an exploration of emotional states associated with the sonic qualities of timbres produced by digital music technology. This exploration will be necessary to determine the applicability, foundations, and classes of the available timbres in clinical music therapy work.

An investigation of the classes of transparent technology is also needed to determine appropriate means of interaction for patients and digital music technology. Investigations in the preferences for timbres, preset patterns, and instrument choices will help to define the use of digital music technology with many categories of patients.

It is hoped that these proposed investigations will enable music therapists to provide new opportunities for creating music—music that is expressive, healing, and helpful towards leading a patient to new levels of awareness and health.
GLOSSARY

Awareness: The process of becoming conscious of, and identifying a therapeutic need or issue. Awareness describes the moment in which the patient discovers the presence of this need or issue. This need has now become a part of the patient's consciousness, and often, the therapist will be made aware of the patient's discovery. In the music therapy process, the patient may use a verbal or musical means to bring his moment of discovery to the therapist's attention. A moment of awareness can demarcate the movement from one stage of the therapeutic process to another. This movement can lead to internalization, although it is not a certainty.

Child/Client Centered Therapy approach: This approach is derived from the humanistic model of therapeutic intervention. In this model, the person undergoing treatment in therapy possesses the inherent capacity to guide his or her own growth when given the appropriate therapeutic opportunities. This model was derived from the concept of nondirective therapy first postulated by Rogers (1980). Rogers states"The nondirective viewpoint places a high value on the right of every individual to psychologically independent and to maintain his psychological integrity" (1989, p. 87).

Child in Crisis: A child who is experiencing difficulty functioning in a school setting due to conditions present within the home environment. The child's crises can include: sexual abuse, loss of a family member or close friend, child abuse, and neglect. The children's responses to these crises can range from a lack of desire or ability to participate in school activities to attempted suicide, eating disorders, and drug abuse. These problems are often coupled with a host of the problems associated with living in a hostile, inner city impoverished neighborhood.
Clinically Improvised Music Therapy: A conceptual framework in which the therapist is providing music as a catalyst to effect a change in the process in a loosely structured fashion. Aigen (1990) has defined this as "Creative and Improvisational Methods" in which the activities of therapy are "those whose content is determined in a fluid and adaptable manner, guided by the in-the-moment interaction of client, therapist, and music" (p. 5).

Constant Comparative Analysis: See "Grounded Theory Method"

Digital Music Technology: Electronic devices which can serve as musical instruments. These devices are created by musical instrument and computer equipment manufacturers. The instruments achieve sound production through digital hardware, software, and peripheral devices.

Grounded Theory Method: This study employs a qualitative, grounded theory research method (Glasser & Strauss, 1967; Strauss, 1987; and Strauss & Corbin, 1990). The grounded theory method is also known as constant comparative analysis. Strauss and Corbin (1990) describe a grounded theory as: A grounded theory is one that is inductively derived from the study of the phenomenon it represents....One does not begin with a theory and then prove it. Rather, one begins with an area of study and what is relevant is allowed to emerge. (pg. 23)

Their definition illustrates the foundation of how grounded theories are formed. The theory is based on the phenomenon itself. That is, something exists and does something. The grounding for the theory is provided by asking questions concerning the existence and reasons for the operation of a phenomena. Inductive questions are formed, asked, and answered. These questions provide the grounding for a conceptual framework that allows a theory to emerge from the data.

Internalization: Internalization occurs when the patient has become aware of his needs and identified the need for change. After the building of trust and arriving at
a place of awareness, a patient can work towards the internalization of experiences in the therapeutic process.

**Music Therapy Process:** A term used to define the continuum of contact between patient and therapist. Music therapy process defines the relationship between patient and therapist over the course of treatment. The term process is used to denote the growth of the patient during the course of treatment. In this study, the term will be used to describe improvised encounters of patient and therapist contact in which both parties are creating music using music as a means of expression.

**Music Therapy:** A process based modality of treatment that provides a continuum of contact between patient and therapist in which both parties are involved in an interactive musical dialogue that is designed to facilitate therapeutic growth.

**Musical Instrument Digital Interface (MIDI):** Some of the music created for his study will employ the use of the Musical Instrument Digital Interface (MIDI) technology. MIDI technology is a serial protocol that allows the grouping of computers, synthesizers, samplers, and digital signal processors to share data. These devices communicate through a standardized computer interface, which allows serial data transmission between microprocessor controlled devices of different purpose and manufacturing origin.

**Transparent technology:** Technology that have been manipulated to appear to the patient in a simple, easy to manipulate state. This state of apparent transparency is due to the changes performed by the therapist to render the technology to this level. The goal is to present the patient with an instrument that requires no more of a learning curve than required to strike a drum or depress a key on a piano. There are five distinct criteria required

1. The instruments require specific enhancements to appear to a patient in an uncomplicated and facile fashion.
2. The instruments must maintain a high degree of sonic and musical integrity. The term musical integrity refers to the instruments' ability to produce timbres and preset patterns in a style that is culturally congruent to the patient's musical tastes.

3. The instruments must aid in the facilitation of the therapeutic process. The instruments need to be fluid and adaptable to the needs of the patient in a moment to moment manner. The instruments need to provide the therapist with tools that enhance the music making.

4. The instrument needs to be gratifying to play. The gratification can take place on an emotional, sensorial or spiritual plane.

5. The patient needs to receive a successful experience from his or her interactions. The success of the experience can be determined by how the patient is able to express him or herself in the musical process.

When the combination of these factors are met, then the instrument can be considered transparent.

**Trust**: The establishment of an understanding of mutual confidence, respect, and caring between a patient and a therapist. This relationship develops as the therapist and patient develop an atmosphere of assured belief in the purpose of the relationship. This therapeutic relationship is designed to aid the patient in the attainment of a clearer understanding of himself, and his motivations, desires, and aspirations.
BIBLIOGRAPHY


APPENDIX A
ANN'S SESSION SUMMARY

Session One

Ann did not bring her QY-10 to the session today; she forgot that today was her first session. There is another QY-10 that is kept in the music therapy room for these situations. The initial part of the session was spent discussing the QY-10. Ann related that she did not do much work with the QY-10 outside of session. She felt it was too difficult to operate.

Ann and I discuss the operations of the QY-10. I show Ann how to use the piano like keyboard on the machine and then how to switch between sequences, patterns, and the individual voices.

After my demonstration ends, Ann uses the instrument to create two sequences. She uses patterns 94, 93, and 88 with my assistance. Ann expresses satisfaction with the music that she created. I encourage Ann to share with me her experience of making the music. She relates that the music reminded her of doing math. This is something that she enjoys to do. Ann wrote these lyrics to sing with her sequence.

Lyrics

I don't know, but I like math,
It makes me glad. I get 100's and I never fail,
I like my teacher, that's it.

(Session Transcript)

After creating this song, Ann relates how she does not like Spelling or Family Living /Sex Education as subjects. She will not elaborate why. She then
discusses her family living situation. She tells of her brother's illness as a child and her sister's return from college before going off to medical school.

The session ends after I tell Ann that she can use any of the equipment that she sees in the room. Ann acknowledges this and indicates that she will in future sessions. Ann asks about the manual for the QY-10. We are out of time; we schedule another session and make plans to review the manual in that session.

Session Two

This session begins with Ann explaining difficulties she experienced with her QY-10. The metronome had been set to "play always." When the QY-10 is programmed to this setting, the metronome is present in every music making activity. Ann was afraid she had a defective unit. I assured her that she did not and showed her how to turn off the metronome. Ann shows me the lyrics she had written at home to Pattern 37.

JN  So, did you use this to record any songs?
AR  No, I didn't record one, but I did write one.
JN  Great!
AR  I wrote this down-
(Presents JN with paper with following lyrics.)

Lyrics
My sister doesn't let me watch TV
My sister is always bossy.
My sister is a boring sister.
She is always neat, very very neat.
She is slow, very very slow.

But, I like my sister anyway.
JN  You used Pattern 37?
AR  Yes.

(Session Transcript)

Ann decides to set these lyrics to music. She details the parameters of the song as she had envisioned them. I clarify my understanding of the song. I then
demonstrate how to record sequences. We record two sequences and sing the words to the music.

Ann appears satisfied with her composition. I encourage her to create another song with the remaining session time. Ann relates her frustration with a peer who is ignoring her. I direct her to speak to the girl who is ignoring her. She decides to write lyrics on the word processor on the computer. She writes:

**Lyric**

I'm here, so don't ignore.  
Let me play with Jane.

*(Session Transcript)*

I sing this with Ann to Pattern 46. We end the session after I give Ann a print out of her lyrics. She wants to work on this song for next session.

**Session Three**

Ann chooses to play the Octapad drum pad this session. I demonstrate how the a, b, c and d buttons on the Octapad work to create different note assignments for the 8 pads. The Octapad is connected to the Proteus I Sound Module. Ann selects the sound 31 Latin Percussion. We decide to play together. I play the Casio PMP 300 while Ann is playing the Octapad. I ask Ann to select the sounds on the Casio PMP 300 that will accompany her playing. She selects the Harpsichord.

I begin playing quarter chords of C F G and Am triads. The music shifts to Ann playing a single note figures in response to my playing. The improvisation continues for approximately 9 minutes. It is very dynamic in volume and tempo. Both Ann and I initiate figures of call and response. Ann uses primarily a wood block sound and shaker. The improvisation ends with a repeated I-V figure played by me with Ann following on wood block.
I discuss with Ann the music we created. She tells me that the wood block sound reminded her of a clock. I then direct her to using the QY-10. She chooses pattern 43 but has difficulty working with the QY-10's sequencer. She relates that she finds it difficult.

Ann then reintroduces the lyrics from the previous session they are: Stop ignoring me. Let me play with who I want.

I direct Ann to create a sequence. We sing the lyrics to pattern 43. Ann asks to go back to playing the Octapad. She asks if she can use the computer to record her work. We use Vision Software to create an improvisation. After the improvisation, I end the session.

**Session Four**

I review the past three sessions and check with Ann as to the accuracy of my review. She agrees that the events are correct. I ask her if she has named her QY-10. She tells me that nothing comes to mind for her. Ann asks to play the Octapad. I suggest that we use the words on her shirt as a starting point for our improvisation.

JN What would you like to do today?
AR Can we play with the drums?
JN Sure, maybe we can come up with a song about what it says on your shirt-That's a great shirt-
AR Yeah, it's new.
JN It says: Try walking a mile in my shoes (On this Tee shirt, there is a picture of two high heel shoes. There are shoelaces made of pink satin lace that are sewn into the shirt to appear as if they were part of the shoes) That might be a good idea for a song. (pause) you want to play drums now?
AR Yeah.

(Session Transcript)

Ann ignores this suggestion and begins to improvise using the Octapad.

She directs me to play a guitar sound on the Casio PMP 300. She uses a
harpsichord sound. This improvisation lasts for 12 minutes and 26 seconds. The music is filled with short, staccato phrases. Ann alternates between the notes A, C and E in the 4th register. I answer her notes with three and four note chords. Tension builds; as it does I play a series of ascending diminished chords. The music becomes quicker and louder. Ann and I imitate each other in pitch, rhythm and dynamic. I initiate the cadence and Ann responds. We find an eighth note pattern that is repeated between us as the improvisation builds.

As the tempo diminishes, Ann switches to the Bell sound. I switch to the String sound. We play this for approximately 1 minute, 10 seconds and then begin to rapidly switch through the sounds. I play piano, electric piano, and accordion. Ann plays piano, organ, and then electric piano. The improvisation ends abruptly without coming to a cadence.

I ask Ann if she is finished. She replies that she did not want to stop. I ask her how she felt about the music. She does not answer. I suggest her comparing the music to an animal. Ann relates that the music reminded her of a lion walking slowly like a predator and a seal in the circus. Ann shares with me her feelings of inadequacy and wonders if she is deserving enough to have all of these music making options available to her. I check to see if she finds all of this confusing.

Ann tells me that she is not confused, but she feels spoiled by all of her options. She thinks children who are brighter should receive music therapy treatment and that she is not deserving. She feels that she is a middle person --not too smart, not too dumb. Ann then talks at length about each of her family members and her relationship to them. She speaks of her lack of trust in her mother and the problems she encounters with her brother and sister. When asked about her father she replies with the following.
JN How about your Dad?
AR I don't tell him anything. He works and he comes home and then all he does is lay around watch TV, eat and then go to bed.
JN So you really don't have much of a relationship with him.
AR No.
JN Was it always like that?
AR Yeah, He's been working since before my brother was born.

(Session Transcript)
I suggest that trust could be a topic for a song in our next session. Ann agrees to think about that topic. Ann asks a question related to the operation of the QY-10. I explain how to switch sounds on the piano type keyboard. We then end the session

Session Five

I begin the session with a review of last session. We discuss trust and Ann's conception of her standing as a middle person. Ann relates that another student let her get credit for homework she did not do. Ann makes up a fictitious smart person named I don't know. Ann alternates between this person being a male and female. She details how her guidance counselor caused her to miss classwork. We then move onto discussing another fictitious person who Ann describes as someone like myself. Ann names this person Maria. This person is mean and does not do well in school.

She declines to use the QY-10. She also declines to name the device. I ask Ann if she would like to play a musical game called "Musical Portraits." She claims that this is something she would like to try. In this game we use the characters that Ann has created to improvise. Ann chooses the Chorus sound on the Casio PM 300 keyboard. She wants a nerdy sound. She uses this sound for the character Maria. For the character I don't know, Ann directs me to play first with a light clear sound. She chooses the Harpsichord sound for me.
I play 15 measures of Dm to Gm. Ann enters with a repeated figure of diatonic C 1, D 1, and E 1 in eighth notes followed by A, G, and F in the 4th register. I switch to a Reed sound to match Ann’s music. Ann continues her pattern as I play chords of alternating major and minor thirds in a descending pattern. The improvisation lasts 3 minutes 11 seconds.

We discuss Ann’s choices of sounds and the images she encountered while playing. She saw people all scattered around like birds to Maria’s walking. She then talks about her peers and their admirable qualities. Ann discusses two opposite people for whom she would like to make musical portraits. After selecting sounds of bells for the character Anne and an annoying sound of Synth Brass for Simon, we improvise on two keyboards.

We play very discordant music with many clusters and non-harmonic tones. The music has many small intervals with both sounds contributing to the music. I play a series of minor seconds and then Ann responds. We play back and forth on the lower notes of the keyboards. I repeat E to F several times while Ann plays higher pitched notes. Ann begins playing through many different sounds. We both settle at the multi percussion sound briefly and then return to our original sounds. Ann switches to a piano sounds and then a Synth Ensemble sound. The improvisation continues and develops several themes before ending. The improvisation takes 4 minutes 34 seconds. We discuss the music we made and the decisions that led to instrument choices of keyboards in the session.

AR  I played the drums last time and the QY-10 -I don’t think that it will make the same sounds as the keyboard.
JN  Do you think the keyboard has different sounds?
AR  Well the QY-10 only plays music. It doesn’t have the same feel as the keyboard. The keys are very small and few.
JN  So, you’d rather have more keys?
AR  Yeah

(Session Transcript)
We end the session and arrange for our last session.

**Session Six**

I begin the session by greeting Ann and reminding her that this is the last session. We review the past sessions and discuss the issue of trust. We then move on to discussing the issue of deserving and Ann's conception of who is deserving. Ann refuses to give names to her instruments.

I ask Ann to describe the qualities of the instruments as related to a person. She describes the QY-10 as a regular person, someone who is loyal, smart, always there. I ask her, What kind of animal would the QY-10 be? Ann tells me that it would be a snooty dog. She offers no explanation for this. We then go on to music making.

Ann plays through several patterns to find one she likes. She plays 72, 64, 56, and then chooses 77. Ann then plays a series of chords into the sequencer. The sequence is 18 measures long and alternates between E and A major triads. Ann plays the sequence and asks to change the tempo. She moves the tempo up from 120 to 200.

Ann and I discuss the music. I direct Ann to write words for this music. She agrees and works on the theme of trust. She writes: "If you're loyal, I will depend on you as a friend." We sing this together to the music recorded on the computer. We then discuss her sense of trust with me. She declares that she does trust me. I acknowledge this.

Ann goes on to discuss her relationships and trust with her peers. The session concludes with Ann suggesting a final activity of returning to the message written on her shirt in session four.

JN We only have several minutes left is there something else you would like to do?
AR Well, we said we going to write about the shirt and we never did that.
JN You're right. What would you like to do?
AR The shirt said Try walking a mile in these.
JN What would you like to say about that?
AR You'll never try walking in my shoes, I don't know, (pause) (types).
JN You'll never? Who are you saying this to?
AR But if you are listening, I'm right and you're wrong. (Types) (pause).
JN You did-
AR What?
JN What are they wrong about?
AR You'll never get a chance to walk in them because they were made just for me. (Types)
JN Are these good shoes or bad shoes?
AR Good.
JN Were they always good? (Types) (Speaks words) These are good shoes, these were always good shoes.
AR So never try walking a mile in my shoes. (Types)
JN Is that the end?
AR Yeah.
JN Is there anyone to whom this is written?
AR No.

(Session Transcript)

Ann asks to set this to music. She selects pattern 63, which reminds her of a tap show. We quickly set the lyrics to the music and sing them. I ask Ann if there is anything that she needs to do to end our time together. She tells me that she feels done and does not need anything more. We end our session by discussing the instruments she chose and how she felt about each. She likes the Octapad the best.

JN Do you have a preference for instruments?
AR I like the drum pads.
JN What is it about the drums that you like the most?
AR The drums for me are different -you just hit it. Sometimes when you are just calm-you hate hitting it. The keyboard is different-you can pick the ones you like.
JN Were you ever angry when you played the drums?
AR Not exactly. But I liked when I just let it release and the sticks just jumped up and down.
JN Okay what about the QY-10? Is there anything you liked about the QY-10?
AR Yeah, I liked the songs and the patterns and the demo songs
JN Is there anything you didn't like?
AR The only thing I hated about it is that you had to go all this trouble to do any thing. It's very confusing-like changing the volume or the sound.
JN Did the confusion stop you from working with it
AR Not really -half the way. I just read the book. If I didn't understand it, I just went on my own and found what I needed.

(Session Transcript)

We end our session.
APPENDIX B

DONALD'S SESSION SUMMARY

Session One

Donald enters this session very upset over an incident with another boy in his class. Donald claims that the boy took seventy-five cents from him. This is his lunch money. I attempt to redirect Donald towards music making. I ask him what he would like to call the machine. He responds, The 1000 Music Machine. I ask if he has used the QY-10 at home. Donald plays Pattern 56 and then Pattern 25 while playing the keyboard of the QY-10. He plays several melodic patterns on the keyboard. Donald finds a Pattern that reminds him of a song.

DH There's a certain beat on there that I like. Wait a minute-What is that song? (Plays several more measures) -That's Lean On Me! Damn, I played Lean On Me. This thing is fresh.

JN Yes it is.

DH So, these keys are like the white keys on the piano?

JN That's exactly right. The black ones are the same as on the piano also.

DH Oh I see. (He plays the black keys, then returns to the white ones to continue Lean On Me.)

JN It sounds like you have really learned a lot. You have really stared to make music with this. You have a lot different beats working for you.

DH Yeah, you know, I tried to figure out what this is, but I can't.

JN Can I help you with this?

DH Alright, (I show Donald how to change the tempos of different patterns using the Yes and No keys.)

JN When you create music with this machine, do you think of anything?

DH No, cause last time my father showed me some of these songs. You know like Do Re Me and all that stuff.

JN Did he show you any songs on this?

DH No, my father is dead.

JN Oh, I didn't know that.

DH But, he taught me how to play the trumpet.

JN So, you remember all of these songs that your father showed you years ago.
DH Yeah, I didn’t know how play these years ago, but now I learned them.

(Session Transcript)

I ask Donald how it felt to play songs that his father had taught him. He says that it did not bother him. He tells me the story of his father’s funeral and how he did not cry. He repeats over and over that he did not cry. When I ask him why, he tells me that it did not matter—we are all going to die. Donald shares with me the story of his father’s death from complications to a kidney problem and asthma. His grandmother and uncle died soon after his father. He claims it was like Dominoes.

JN Was your father a musician?
DH Yeah, he used to live in this big house and play all the time on you know that radio show that play the music like early in the morning, some times at parties and you know that place the Um-Apollo.
JN How long ago did your father die?
DH He died last January, oh wait it was three years ago when I was ten. You know I sometimes think on him, It don’t bother me none, but you know I never cry.
JN You never cry?
DH No sir, I didn’t cry at his funeral or nothing. I never cry, well sometimes I want to but it don’t do you no good to cry. Everybody be crying but me. What they crying bout? Everybody going to die, I’m gonna die, you’re gonna die. Aint nothing nobody can do about it. My father say to me, don’t you be crying and acting foolish and stuff. You are the man of the house now.
JN Is it important to you that don’t cry?
DH It aint mean nothing, I mean we all gonna die. Right? I didn’t cry. Even when my grandmother and my uncle died. I mean they were dropping like dominos. I mean the first time I seen a body, I mean it was something weird. They head be bugging and all. I didn’t recognize them or anything. But, I didn’t cry. The second time I didn’t cry and the third time, I didn’t cry either, I never cried. They said you can cry but I didn’t. My mother said you can cry.
JN Do you ever feel the need to cry?
DH What for? My father told me not to. He said don’t cry. He knew he was going to die. That way it wasn’t a shock for me.
JN He was in the hospital for a while?
DH Yeah, he got real weak before he died. He looked like an old man. I was going to visit him again the night before he died but he died before I could. He looked real scary at the end. Real scary. They said my father died. I said Oh.

(Session Transcript)

Donald goes on to tell me a story about his mother. Apparently, in a reaction to his father dying, his mother began to talk in tongues. Donald claims that, "she got all weird and starting shaking and stuff. I didn't know what to do." I attempt to redirect Donald towards creating music, but he declines. Donald would rather talk.

Donald tells two more stories about his life. The first is about a women he thinks is a witch who lives in his neighborhood. The second is about his claustrophobia. Donald believes that he will die if he stops breathing in an enclosed space. This story uses the rest of our session time. I conclude the session and schedule another session for the following week.

Session Two

Donald arrives to this session on time. We discuss his work with the QY-10. Donald has listened to the sequences and the musical patterns. He likes the songs that are in the demonstration sequence. We review the events of the last session. Donald discusses his father's death. I attempt to direct Donald towards a music making process.

JN When you played the songs on the 1000 Music Machine that your father taught you, how did you feel?
DH It brings back memories about when I was little we had this big house and I would hide in the piano bench and someone sat on it and I couldn't get out and that's how I got claustrophobic.
JN No one noticed that you were in the bench?
DH It was a big big bench and I was very little.
JN I see, I think. So, do you still have a piano in your house?
DH Oh yeah. Sometimes.
JN Does anyone play the piano?
DH Well I do sort of, My sister plays it a lot. She's really good. Not as
good as you but she plays in school all the time. I play like this.
(Moves one finger) Sometimes I do this. (Plays scale with several
fingers)
JN So you learned to play a scale?
DH Yeah, I didn't do none of this until you got me started again.
JN So, this music machine has helped you to play music again?
DH Yeah.
JN How does it feel to use the small keys on the music machine?
DH It feels weird. You know its different It takes practice. I got a Casio at
home and I use both.
JN Well it seems that you are using this to make some music. Would you
like to do more?
DH Yeah.

(Session Transcript)

I show Donald how to record patterns on the machine sequencer section.
We pick a letter of the alphabet and decide how long it will play. We select a total
of twenty-four measures.

JN What kind of drum pattern do you want?
DH I want something like in that movie "Beaches" you know-that slow
stuff that be romantic.
JN I think I know what you mean Let's play through some patterns to see
if we can find the music you need.

(Session Transcript)

We play through several patterns and select Pattern 56. We play back the
sequence and Donald plays along with the sequence on the QY-10 keyboard.
Donald tells me that he does not like this and that he would like to try something
different. I direct Donald to try other patterns until he finds one that he likes. We
play through several additional patterns. Donald selects Pattern 66. Again we play
back the sequence and Donald plays along with the sequence on the QY-10
keyboard.

Donald is not pleased with the music he has created. He asks me to show
him the other instruments that are in the room. I demonstrate the use of the Octapad
and the microphone. Donald asks if he can use the Octapad with the QY-10. Donald selects Pattern 66 again to use in this improvisation.

He plays along with the Pattern 66 for 3 minutes, 46 seconds. Donald attempts to replicate the syncopated rhythms used in creating the Bossa Nova music pattern. After several attempts, he ignores the pattern and plays around and without the pattern as if it was not playing. At the end of this improvisation, Donald appears to be pleased with the music he has created. I take this opportunity to confirm this with him.

JN Well we are out of time for today. Before we end, is there anything that you would like to tell me about the music we just made?

DH I just like the beat, you know—it was fresh and stuff. I liked the beat.

(Session Transcript)

We end the session and schedule another for the following week.

Session Three

Donald came to this session five minutes late. He offers no excuse for his tardiness. I asks Donald if he used the QY-10 in the three weeks since our last session. We have not had a session in this time because of two missed session by Donald; he has been sick and not in school. He told me that he wore out a set of batteries. I inform Donald that if needs additional batteries, I will provide them for him. He shows me that he has taken the batteries out of his sister’s walkabout stereo. They are rechargeable Nickel-Cadmium batteries (Ni-Cad).

Donald has not created any new music on the QY-10 in the three weeks since his last session. He has listened to the demo and worked with the individual Patterns. I ask Donald if he would like me to demonstrate the operations of the QY-10 again. He told me that would help him.
I demonstrate the procedure for entering music in the QY-10. Donald enters the music and listens to the sequence. He chooses Pattern 33 and creates a song that is seventeen measures long. Donald is happy with the music is complete in its present form. Donald feels that music reminds him of dancing. He writes these words to go with the sequence.

Lyrics

I can't think of words,
But I can dance to the beat,
I don't know, just that
That's it and that's all.

(Session Transcript)

Donald raps these words to the music. After one attempt to rap over pattern 33, Donald decides that the pattern is not good for rapping so he speaks the words over the sequence. I encourage Donald to sing the words to the sequence.

JN Are you hearing the words long or short?
DH Short-(sings) I can't make up words but I can dance to the beat.
JN That's it-now it's working,
DH I don't like it -I can't rhyme. Wait I got a new idea.-I can make up rhymes to this funky beat and you know I want the music to be faster.
JN Do you want different music or just this music faster?
DH This music faster.
JN (Shows Donald how to put a quicker tempo to the sequence.) What's next?
DH I can dance with the house full of heat.
JN (Writes text) What's next?
DH Me and Mr. Nagler chillin on the street. Listen to the funky, funky beat. Get busy. Can we change the beat on a certain word?
JN Sure.
DH I want this whole part with one beat on the word funky beat I want a burning beat here- Something fresh.
JN Do you want to try a different beat to start?
DH Yeah, I want a boom chuck a boom like you know?
JN Let's listen to the patterns form the beginning and see if any work.
(Starts with Pattern 25 and they stop at 26)
DH That's cool. I can deal with that (raps lyrics to pattern)
JN How's that ?
DH A little slower. (JN changes the tempo and Donald raps. Midway he starts investigating other patterns. He stops at Pattern 38)
JN Do you want a house beat like this?
Yeah, on funky funky beat.
That's number 38.
Yeah, let's slow it up. (Donald slows tempo on his own) Yeah, that's cool. (Donald raps the lyrics over the microphone.)
How was that?

(Session Transcript)

Donald appears to be pleased with his composition. He raps the lyrics again using Pattern 38 at a slower tempo. At the completion of his song, he tells me of a new song that he has developed outside his sessions.

You know my friend, he got DJ equipment, and this is like when I made up a rap the other day, it's about a girl. It's got curses though and stuff in it. It's about Ho's and stuff.
Well that's alright, I've heard the words before. Are there a lot of prostitutes in your neighborhood?
They be all over, You can't walk nowhere without seeing one. I made up this rap and I memorized it about Flo the Ho? You want to hear it?
Okay. But let's finish this one first. Are we done with it?
Yeah.
Well, let's hear Flo the Ho.
We mixed the rhythm and it goes like this:

Lyrics

You see Flo she's what you call a Ho
If you want you can you can book her,
It's not too strong.
For a dollar she can suck on your wallet.
She ain't give you a fuck for a buck,
that will cost you two.
She say come on jack,
I need me a whack. I be fixing,
Few dollars you get you some pussy.
She bust in my crib, My Mom got real upset,
So she busted the room. My Mom got real sick.
So, I chased her with a broom.
She said don't be a sucker, I'm looking to get wired.
That's when Flo she took off her dress.
Man she be a mess.
I said Flo, Flo don't be a pest,
You aint going to have no success.
She be Flo, Flo the Ho, Flo, Flo the Ho.
Uh huh, Uh-Huh

(Session Transcript)
Donald tells me that he has not actually approached Flo to come to his room. He sees her from his bedroom window and she is constantly yelling, “I need a dollar, I need a dollar.” Donald maintains that his mother does chase her with a broom to get her off the corner.

I end the session by encouraging Donald to continue to work with his QY-10 outside session. We schedule another session for the following week.

Session Four

We begin the session by reviewing Donald’s song “Flo the Ho.” After playing the song once using the QY-10 set to Pattern 38, Donald expresses desire to use Octapad. I improvise with Donald on the Casio PMP 300 keyboard with a piano sound. Donald is using the Octapad which is triggering the rock drum sounds on the Proteus One Sound Module.

Donald plays a repetitive beat with the snare drum on beats two and four. He plays steady quarter notes on the kick drum sound. As Donald accelerates his tempo, I switch to a vibraphone sound on the Casio. Donald responds to this by alternating his pattern to include a cymbal sound. Donald ends the 4 minute improvisation with two loud cymbal crashes.

He immediately begins a new improvisation after a several second respite. This rhythm is two sixteenth notes followed by an eighth note. I play a series of suspended chords on a C Pedal using the piano sound. As the improvisation unfolds, Donald begins to play loud cymbal crashes. Donald begins to experiment with the different drum settings on the Octapad. As he explores the Octapad, Donald stops to question what the different settings do. He is intrigued by the different settings and the sounds associated with them. He plays the b setting with the pentatonic scale. Donald plays through the scale with my imitating his playing.
After several minutes, Donald asks for the drum settings again. He plays an unaccompanied drum piece. We discuss the music he has just created.

DH It's hard playing these pads so close together.
JN Well the pads are very close together. Do you play drums at home?
DH When I go to my Grandmother's house. Cause he got-one, two, three drums and a cymbal over here, And a big one down here. It got weights in it.
JN So it won't move?
DH Yeah, She got them down in the basement
JN Now what we can do is use the 1000 Music Machine to get a beat going if you want.
DH Yeah, let's see. (Turns on QY-10 and plays Pattern 25) That's cool. Too fast.
JN Well slow it down then. (Donald slows down Pattern 25, it plays for several minutes and then he stops.)
DH Can I do Um- Demo?
JN Just turn it on. First put it in the song mode.

(Session Transcript)

Donald improvises a drum accompaniment to the entire set of demo sequences. He follows the bass lines with the cymbal for the majority of the sequences

JN How was it to play along with that music?
DH It was fun.
JN Is there any music that we can play together?
DH Uh-
JN Maybe we can do something together on the 1000 Music Machine (QY-10)?
DH Can you play a beat -like you know-on the Casio and I'll sing the song I made up.
JN Show me what you need. (Donald starts a rhythm playing (Rock 1) on the Casio and then slows the tempo down. He tries the Samba, Beguine and Swing rhythms before stopping the machine)
DH I think I'll try the 1000 music machine-These beats be corny. I wanna Rap-you know ?

(Session Transcript)

Donald plays Pattern 25. I play the Octapad while Donald raps Flo the Ho on the microphone. (Same lyrics as in the previous session) As Donald begins to
rap, he turns off the QY-10. He asks me to accompany him on Octapad. I play a 4/4 rhythm with quarter notes on kick, beats 2 and 4 on snare.

DH  That was alright.
JN  Yes it was, Tell me why did you use the Casio drums instead of the 1000 Music Machine?
DH  This be confusing-(QY-10) This is more easier -but the 1000 Music Machine has better beats. I like your beats here on this best-I like playing this the best (Octapad)
JN  Were out of time for today.
DH  Okay
JN  If you want to continue this next week we can or we can make up another song
DH  I already got another song about the cops and how they be bothering me in the hood. Just like my Uncle, he caught AIDS in prison and died last week and I was thinking about him and how the cops didn't let him live and how they be bothering me now.
JN  This sounds like an important issue for you. I don't think we should rush through talking about it now. Is it all right if we start off next week's session with this?
DH  Yeah.

(Session Transcript)

We end the session and schedule another for the following week.

Session Five

Donald selects the drum pads and Casio to work with. Donald declines to start with the QY-10. He is ready to play the Octapad.

JN  Last time we were together, we made music about Flo, we improvised on the drum pads and we briefly talked about your uncle, Would you like to work on any of these issues now
DH  No.
JN  Okay, well is there anything new you want to work with?
DH  Nothing.

(Session Transcript)

We discuss Donald's weekend. He tells me that he is still upset over losing his pet dog. His mother took the dog away from him. His sister has just received a pet cat named Punna. I joke about the name of the cat; this seems to help Donald to begin work in the session.
Donald and I discuss other activities that Donald engages in outside of school. Donald tells me that he can play basketball until his mother calls him in. This is normally around 8:00 PM. Donald ends our discussion by going over to the Octapad and picking up the sticks. Donald plays a drum beat on the Octapad. I play along with Donald on the Casio Keyboard. He uses the jazz guitar sound. I plays a blues progression to Donald’s drumming. My bass pattern is 1-3-5. Donald keeps a constant beat until midway through the improvisation when he begins to explore other sounds and rhythms. Donald returns to playing a consistent rhythm. He speeds up the tempo to a crescendo and then hits a series of cymbal crashes to end the piece.

Donald asks for different sounds for the drum pads. I switch the sounds to bank C on the Octapad which has three tom sounds and a kick, snare and cymbal. Donald then begins another improvisation. I play a repetitive harmonic figure that centers around C, Am, and G. Donald follows my rhythm and creates a drum pattern to match it.

Donald then plays a series of phrases before returning to his drum pattern. Donald and I engage in a call and response of ideas with both of us initiating ideas and executing different interplay on the and of the fourth beat. Donald alternates between the cymbal and clicking his sticks together. I play sixteenth note fills and chord clusters. Another child enters the room and interrupts the playing. I apologize for the interruption and we go back to their original theme of call and response. The improvisation continues for several more minutes and ends on a series of cymbal crashes form Donald. Donald immediately begins a new drum pattern which ends with a snare fill.

DH That sounds like- And now introducing (snare fill). It’s hard for me to do that. (plays more). It’s not easy (plays more). This thing makes different sounds?

JN Sure just reach over and select a new sounds (from the Proteus).
DH Oh, that cool (selects vibraphone sound) What's that sound?  
JN It's called Vibraphone, like the vibes.  
DH Like they use in jazz?  
JN Exactly.

(Session Transcript)

Donald uses the Vibraphone sound on the Octapad and I use the jazz guitar sound on the Casio PMP 300 to improvise. We play using these sounds to create a melodic theme that is repeated between them. I imitate Donald's pitch and rhythm. The Octapad is on the d setting. The improvisation ends when Donald changes the pattern. He is pleased that I was not able to follow the change in his pattern.

DH I like this.  
JN We have five minutes left. Do you want to continue working with this?  
DH All right.  
JN Before we do, I noticed we didn't even talk about the 1000 Music Machine today. Any reason?  
DH I don't want to play with it  
JN Why is that?  
DH It's too complicated.  
JN To use it?  
DH Yeah.  
JN What about the sounds that it has?  
DH They don't sound right.  
JN What about recording songs on it?  
DH Recording is too hard I just like the Demo song.  
JN So, which is more musical for you to use? The 1000 Music Machine or the Pads?  
DH The Pads, It's easier. I like this more.

(Session Transcript)

Donald tells me of the drums and trumpet that he learned to play from his father. He enjoys hitting the drums and blowing the trumpet. I ask how it feels to play an instrument that he learned from a person who is not around any more. Donald claims that his sisters cry when he plays the trumpet, but he will not.

Donald explains that he cannot cry. He needs to take care of his family; he is the father now. Donald shows me that he does not need to cry. He boxes (as in fighting) instead.
JN Who do you box against?
DH I got a bag at my grandma's next to my drums.
JN Is playing the drums like boxing for you?
DH Yeah, some times. I mean I like hitting, and the drums let me hit and stuff. So, I can really do stuff and feel better.
JN You find that drumming helps you to feel better?
DH Yeah.
JN Okay, well I'll see you next session and I'll listen for your drumming.

(Session Transcript)

We end our session and schedule our last session.

Session Six

Donald did not bring his QY-10 to session. I ask Donald what he would like to do. Donald tells me that he would like to work with the computer. I ask Donald which instruments he would like to use with the computer. Donald selects the Proteus One Sound Module, the Octapad, and the Casio PMP 300 keyboard. He declines to use the QY-10. I play the Casio PMP 300 keyboard. Donald uses Vision software to record a four measure loop of a drum track into the computer. He plays a vibraphone sound on a separate track to accompany the drum track he has recorded.

I assist Donald with this procedure. I play a piano sound to Donald's drum playing. We improvise to Donald's drum pattern. Donald plays phrases that support and complement his drum track. I support Donald's playing by reflecting and imitating his phrases. Donald stops the drum pattern he has created. He pauses and then decides to create a new drum track. Again, Donald and I improvise with the new pattern. The computer records the music we play. Donald is very animated in his playing. He creates four different pieces of music. I support and accompany Donald's improvisations.
Most of the music that is created within the drum patterns contains the kick drum playing quarter notes. The snare drum is on two and four. The cymbals and hi hats are playing eighth and sixteenth notes. I remind Donald that this is the last session together. I ask Donald how feels about this.

JN How do you feel about this being our last session?
DH I don’t know.
JN No thoughts?
DH I try not to think about it.
JN Why is that?
DH I don’t know.
JN Any ideas about the music we made together? (pause) You know -Flo the Ho? (pause) What about The 1000 Music Machine? How did you like working with that instrument?
DH It was all right but it was too complicated.
JN What about the pads?
DH They’re cool. I like to hit them.
JN Is there anything that you would like to do to finish our time together? (pause) Anything you would like to tell me.
DH No.

(Session Transcript)

We end our session together.
APPENDIX C

JENNIFER'S SESSION SUMMARY

Session One

This initial session begins with both cables (regular and spare) to connect the QY-10 to the amplifier breaking. Jennifer is receptive to discussing her experiences with using the QY-10 over the past week at home. Jennifer enters to the first session with both her QY-10 and a list of patterns to which she had an emotional connection.

This was an unsolicited list. Jennifer explains that if she was going to do music therapy, she would need to connect to the music. Jennifer explains that Pattern 37 meant It does matter. Pattern 47 meant Sitting in the Dark. Pattern 54 meant It's okay to be old. She relates how pattern 48 reminded her of her loneliness. We discuss these emotional connections to the patterns. She relates how the music she heard reminded her of sad events in her near and distant past.

I ask Susan what we should call the QY-10. She replies The Music Creator. I then direct Jennifer to creating music. As we explore the music, Jennifer appears animated and eager to participate in the process. The music was created by asking Jennifer to tell me letters of the alphabet A to G and numbers for the length of the measures in the song. We then put Pattern 26 to the music and listened to the music.

I ask Jennifer if she could put words to the music to describe her loneliness. She writes:

Lyrics

Loneliness, is always with me,
I am always afraid,
I want it to end.
I cannot be a friend.

(Session Transcript)

Jennifer speaks the words at first; I sing them for her using Pattern 26. She follows my direction and sings the words. We close the session with her disclosures that her loneliness was a constant companion and she is sad about her inability to share with anyone. Jennifer relates upon leaving that she dislikes the small keys on the QY-10. She said that she is unable to play them well.

Session Two

Jennifer begins this session by telling me that she has not been able to work with the Music Creator (QY-10) because she has been busy studying for annual standardized tests. I ask Jennifer if she would like to make music. She replies "Yes, very much so".

Jennifer then requests music about racism. I ask if this is something that she has experienced. Jennifer tells me yes, but that she is not experiencing racism in school at the present time. She tells me she is interested in writing music about perseverance. This a quality that Jennifer feels she does not possess in her study habits. Jennifer feels that she would rather create art than study. She is envious of her brother who does not do as well as she but gets to have more free time.

Jennifer relates that she feels pressure from her father to excel in every school subject. I direct her to a music making process. After reviewing the operations of the QY-10, we use the sequencer to create a composition based around pattern 33. Jennifer then writes these lyrics with my assistance.

Lyrics
Here it comes again,
The pressure,
Which is confusing me
From the problem I already had.
I feel confused and nervous.
I don't know how to end this pressure besides turning on my imagination.
When I turn on my imagination,
the confidence will start to appear,
Therefore pressure will vanish.

(Session Transcript)

We end the session by discussing the outcome of the tests and Jennifer's conceptions of success and failure. We schedule a session for the following week.

Session Three

We exchange greetings. I point out to Jennifer that we have not had a session in three weeks; Jennifer has not shown up for two consecutive sessions. I then demonstrate the drum pads and keyboards to Jennifer since she has yet to use these in session. Jennifer relates her new interest in a boy. She tells me that while she sings a song titled “After All” outside of the session, she is filled with emotion. She tells me the different ways how he has helped her in her troubles. Jennifer is happy to have this boy as a friend. Yet, Jennifer cannot see this child as a possible boyfriend because he is of a different culture. Jennifer mentions that he helps her when she is crying.

JN  Let me go back for a minute to your crying. When you are crying, I sometimes see that you appear to be very sad because of an event or something that has happened. Other times, it appears that there does not seem to be a reason.
JS  Sometimes, it just take hold of me and I can't help it. Other times I may be 5,000 miles away and I can see where I am and it saddens me.

(Session Transcript)
Jennifer goes on to tell a lengthy story about meeting a boy outside of school and how she feels about him caring for her. She talks about her feelings that no one at home cares about her and how she needs to find caring outside of her home. Jennifer relates another story about the school she would like to attend. She asks about other children and how they were accepted to these schools. I attempt to redirect her.

JN You are asking me questions that I really do not know the answers to. I would like to stay with the music that we are working on. Is there a way to use all that you are telling me to create music? Is that okay with you?

JW Yes.

JN Have you worked with the Music Creator?

JW Yes.

JN Have you written any new music with it?

JW No.

JN Is there a reason for this? (pause) How do you find working with the Music Creator?

JW It's not that it is too hard to work with, it's hard to record the music on the machine.

JN So you find it difficult to record with?

JW Yes.

JN Well there are many instruments in here. Do any of them look interesting to you?

JW I don't know.

JN Well you can pick what you like. I'll follow you.

JW I do not know much about this. How do these pads work?

JN Like this. (plays pad)

JN and JW play briefly. JW stops abruptly.

JW Do you expect me to play more?

JN No, we can do any thing you like. We can play music or sit and listen to the cars drive by.

JW (laughs) There are no cars in here. I want to talk about him.

(Session Transcript)

Jennifer then tells another story about the boy and how she cares about him. She shares a story about her first interest in a boy. She was attracted to an Asian boy whom she felt was too much of a playboy. This boy reminds her of her uncle in China. Jennifer then tells returns to the boy that is her current interest. She reveals his name, D. M. She tells of D. M. accompanying her to a play rehearsal
and what the other boys and girls said to her about her attempts to be with him.

Jennifer does not believe that D. M. is interested in her. Jennifer does believe that if she were to become involved with D. M. that her father would flip. As Jennifer continues to relate her interest in D. M. and the social world surrounding them, she becomes less and less focused. I find increasing difficulty in redirecting her. I wait for Jennifer to stop her story. I comment that we have used all of our session time for today and not made very much music. Jennifer agrees. I end the session and schedule another session for the following week.

Session Four

Jennifer arrives ten minutes late for her session. She claims she was detained in the school office. Jennifer has come to her session without her QY-10. I remind her of the different instruments that are available for her to use. She does not respond. I demonstrate the Octapad to her. Jennifer declines to use Octapad.

I review with Jennifer about the events of the past sessions. I review the discussion we had about her family, and the boys she likes. I also review the subject matter of the songs we wrote about pressure and loneliness. I ask about her interest in D. M., Jennifer tells me that she is no longer interested in him. Instead, she would like to discuss her feelings towards her uncle who is a year older than she and still lives in Hong Kong.

The discussion of her uncle, who is her mother's younger brother, leads into a discussion of her mother. Jennifer tells of her resentment towards her mother. She feels that her mother has abandoned her and is not interested in her at all.

JW I feel that I do not have a Mom (cries) I feel that other people have Mothers-I do not -I have not had a Mom since I was two years old. She put me in school in Hong Kong. (yells) I could not even walk straight yet! I would fall on the floor and the teachers would laugh at
me because I could not keep my self straight. So, I would bite them so that they would leave me alone. My Mom and Dad would get together in Hong Kong and leave me alone. I would sit up for ten days straight and attack them like a crazy animal. They would ask how come I was up. I would say that I was waiting for them. I would draw pictures of animals. Strange animals, animals and animals.

JN How old were you when this happened?
JW Four years old. I will never forget it.
JN It seems like it is still very -
JW Deep.
JN Yes, very deep.
JW That was only the first time that they left me. It was my first time being without both my father and mother.

(Session Transcript)

We discuss these feelings and I attempt to create music about these feelings with Jennifer. She declines and tells a lengthy story about her old school with her uncle in Hong Kong. Jennifer tells me that the stories her mother tells regarding the mother's actual whereabouts and travels are lies. She continues to then tell me about her brother being allowed to go to the grocery store by himself, at night, across several large avenues in a difficult inner-city area. I attempt to redirect her:

JN So how can we use the remainder of our time together to create music?
JW I don't know. Let's have fun music.
JN Even though we are talking about difficult things like your mother not being around?
JW Yes.
JN You want to do fun music. Is there a reason for this?
JW I want to use pattern 54.
We play Pattern 54 and listen to the music.
JN Is this the pattern you want?
JW Yes.
JN Would you like to add something to this? (pause) Would you like to add words or a melody?
JW Melody.
JN On what?
JW A keyboard.

(Session Transcript)

I stop the sequencer and sing with Jennifer. She starts the sequence again and sings. I play the melody. Jennifer is singing. She directs me to play the
melody she is singing on the keyboard. After several attempts, I play the melody as Jennifer demonstrated it to me. We then play and sing the melody together.

JN  What is the answer to that question -Oh and what is fun?
JW  Fun is for us-reading is fun-hanging out with my friends.

(Session Transcript)

Jennifer changes the subject and starts talking about her Spanish test. She talks about her feelings of failure and how D. M. has helped her feel better. We end the session and schedule another session for the following week.

Session Five

I review with Jennifer the events of the previous sessions. Jennifer agrees that this review is correct. She then relates a story about her latest encounter with D. M.. She has decided to remain a friend to him and not to try to become his girlfriend. Jennifer did not bring her QY-10 to session again. She says that she is confused and that she cannot concentrate.

Jennifer has difficulty telling me her needs. She tells me: “I feel like a little baby. The words are stuck and cannot come out.” I ask her if we can find a way for the feelings to come out. Jennifer agrees to try a musical game. I ask Jennifer, Imagine that the feelings that come to you when the words won’t come out are an animal. What kind of animal would they be?

Jennifer tells me that they would be dolphins. After I direct her through a verbal process, we arrive at description of a baby dolphin who has been abandoned by her mother and is now in deep water alone with her older brother. The dolphin does not feel that she is loved.

JN  What can the baby dolphin do to feel more love?
JW  Have someone around who is his age who will spend time and have fun, caring and understanding and treat it with kindness.
JN  Can we put this in music?
JW I don't know
JN Can we try?
JW I think so.
JN What would you like to do?
JW Let's see. (pause) I have no idea-I can't concentrate
JN Do you want to write about the dolphin?
JW Yes.
JN What do you want to say about the dolphin?
JW Going on his own—actually I want to write to say something about
whenever you are close to get something the point—it say bye bye.

(Session Transcript)

Lyrics

You can never reach your goal unless something is in the middle.
Whenever you are close to it,
something is pulling you away from it.
You do not know what it is,
because it is invisible.
Since you don't have perseverance,
you can't succeed

(Session Transcript)

Jennifer explains that these lyrics are about an offer that has been made to
her from another family. She explains in Chinese culture there is a tradition of KAI
DAI, which is, as she relates it, a ceremonial adopting of a child who is without a
parent. Jennifer has the option to remain with her father. This arrangement will
have another family provide her with a mother who will be available to Jennifer on
an as needs basis.

Jennifer is excited about this opportunity to have a mother. Yet, she is
fearful of her father's reaction. She does not wish to bring shame to her family.
The session time is over and we need to end I remind Jennifer that the next session
is our last session together. She leaves and then comes back after several minutes
to tell me that she is very busy and may not keep our next appointment.
Session Six

For two weeks, I made repeated attempts to have Jennifer come into the music therapy room for a session. Because of this delay, there was one final day left before graduation. In my attempts to bring Jennifer to session, I would ask as always if she would come to session. When she declined, I would attempt to redirect and then leave after several minutes of trying.

This was Jennifer's last time that she could come to a session. She agreed in the morning to attend that afternoon. At the time of the session, she arrived at the door but would not enter the therapy room.

After two requests for her to enter the room, I asked if it would be easier for her if we held the session in the hallway outside the room. She said yes. I asked her if she would like to make music today. Jennifer replied no. I told that it would be no trouble to set up the equipment quickly in the hallway. Jennifer declined. I turned the cassette tape on with her permission and proceeded to talk to Jennifer in the hallway.

We sat and talked on the floor for ten minutes. I try to engage Jennifer in several activities:

JN  Why won't you come into the music therapy room today?
JW  I can't. I can't end.
JN  Are endings difficult for you?
JW  I don't want to. Because I don't want to miss all my friends and start over again. I don't like endings. They are too much difficult for me.
JN  What is it about endings?
JW  I am afraid to leave school, I don't want to start over.
JN  What about your adoption? Have you made a decision?
JW  I will not talk about that. I will not talk about anything at all. Do you understand?

(Session Transcript)
Jennifer has grown visibly agitated. I decide to leave this line of direction and focus on something less threatening. I ask Jennifer if we could talk about the equipment she used in her sessions. She agrees.

JN What did you think of the music we created?
JW I liked it 50-50. Some was not too good, some was pretty good.
JN What was it about the music that you liked?
JW I liked the music and the rhythms and the words to the music.
JN What didn't you like?
JW When the music too loud and noisy.
JN What about the Music Creator?
JW I liked the music. But, it was too complicated to figure out. The manual was too hard.
JN What instruments did you like?
JW I liked the keyboard because the keyboard had everything. It has drums, music and sounds. I like the keyboard because it is easier to work with and it has keys.

(Session Transcript)

At this point, Jennifer decides to leave. She refuses to answer any more questions. I ask her if we could talk a little longer. She said no. I asked why. She begins to cry and then bang her head against the wall. At this point a friend of hers came a long in the hall. Jennifer tells me she was leaving with her. I tell her good-bye. She runs away.
APPENDIX D

SUSAN'S SESSION SUMMARY

Session One

Susan comes into this initial session with her QY-10. She received the device a week earlier and has been very active with it during that time. Susan has managed to figure out on her own, how to operate the sequencer, and the musical patterns. Additionally, she worked with the thirty-five voices which can be played from the small piano-style keyboard. Susan has also tried all seventy-two musical patterns in the QY-10.

Susan had not tried to combine the musical patterns and the piano keyboard. I demonstrate how to play a musical pattern on the QY-10 while playing its keyboard. Susan is excited by the opportunity to play the keyboard with the drum patterns.

Susan then demonstrates the different patterns that she has explored on her own. She selects Pattern 92 and plays the violin sound with the pattern. Susan switches the sound to an organ sound exclaiming, “That's good. Its cute.” Our discussion turns to creating a pattern with the sequencer in the QY-10.

I demonstrate the method for inputting a sequence by asking Susan to pick a letter from A to G. We assemble a short sequence. Susan tells me that she has done this already at home. I encourage Susan to create a sequence. She continues this procedure and selects several more measures of music. I demonstrate the procedure for selecting the pattern to accompany her selection.

Susan selects Pattern 92 for the beginning of the song, then selects Pattern 93 to end the song. She decides to create a second song over the one she has just
created. She does this with minimal input from me. She becomes confused with
the concept of placing the sounds in time. I explain that the songs are moving in
time together. This helps to clarify the concept for her.

Susan declines to create another sequence. I ask if she would like to work
on writing an original song. Susan agrees. She chooses to use the QY-10. We
alternate taking turns putting the parts of the song into the QY-10 sequencer. The
song is 48 measures long. We listen to the song together. Susan and I work on
writing lyrics.

JN  Do you want to try to put words to it?
SG  Okay, that would be fun.
JN  What do these words sound like to you? What is the first word that
comes to mind?
SG  There are a lot of words.
JN  Would you like to write some of them down?
SG  Alright. The music is fast. You can party to it. (Pause) I wonder how
songwriters do this.
JN  Just say the words as they come to you.
SG  Okay. Let's go
JN  Well this will work with our song. (sings along with sequence): Fast
music, party music. Let's go
SG  (sings in time after JN) Let's have a good time.
JN  That's it. Keep going!
SG  (Stops sequence) Let's dance all night. (Pause)
JN  How about three more lines?
SG  starts sequence and sings: Get down, get down, get down -
SG and JN restart the sequence from the beginning and sing the entire song
together.
SG  Wow, I just got this and now I've written a song

(Session Transcript)

We end the session discussing the operation of the QY-10. Susan is
curious about the sounds in the demo section. I end the session by encouraging
Susan to use the sequencer to create music at home for use in our next session.
Session Two

We begin this session by reviewing our previous session. Susan has worked with the QY-10, but she has not created any new songs. She tells me that she finds it difficult to operate the sequencer. Susan chooses to work with the QY-10 again. She has named the QY-10 “Pal.”

I demonstrate the procedure for entering a sequence as in the previous session. Susan picks letters and records them in time. She selects 17 measures of music. She then picks Pattern 26 from the list in the manual. We listen to the song twice at Susan’s request. I then encourage Susan to expand her song.

Susan chooses to add more chord patterns to her song. An additional 15 measures is added to the song. We play it back to listen to the song. Susan decides to save this song and then go on to create a new song. Susan asks for the listing of the Patterns and Voices to use in this new song. I provide the manuals for the QY-10 that have not been supplied by Yamaha. I offer to photo copy these for Susan after the session.

We proceed to use Pattern 50 for the song. After listening to the song, I direct Susan to create words for her sequence. Susan picks the topic of loneliness. Susan experiences loneliness often, which she describes as: It feels like you’re slow and that you’re empty.

Susan directs me to sing “I'm all alone, No one to cry to. No one to share tears with.” She does not like the way I sing this lyric. She sings the lyrics correctly. We then rehearse singing these lyrics together. Susan sings the lyrics again, changing the rhythm to match the sequence. I play the melody on the Casio PMP 300.
Susan sings the lyrics and realizes that she has more sequence than words.

JN  You waited a little too long to repeat the lyrics
SG  Yeah, I thought I'd have enough after the 20.
JN  The 20? Oh you're using the sequencer to-
SG  Yeah I'm reading the measure numbers to tell me when to come in
    again.
JN  That's very clever. What do you want to title this song?
SG  Um I don't know. Uh-(pause) Shallow

(Session Transcript)

We discuss her choice of song title and her relationship of emotions to the

music.

JN  What do you normally do when you come up with these feelings?
SG  I sit and mope
JN  Do you do that a lot?
SG  Sometimes, it depends what the problem is
JN  How do you feel when you express this through the music?
SG  It feels like open, Uh, and more open instead of keeping all locked up
    inside
JN  How does it feel to open this up.
SG  It feels better. Even when I stay alone sometimes, I make up songs to
    myself.
JN  Do you write songs like this?
SG  I just babble on to myself with words
JN  It is important that you find things like this that help.
SG  Yeah, It does help.

(Session Transcript)

I invite Susan to create more music on the QY-10 or to switch to another

instrument. Susan chooses the QY-10 to create a new song. I demonstrate on the
Casio PMP 300 the music used in the previous song. She listens and then moves
back to the QY-10 to create her new song.

Susan creates twenty-six measures of music and then attempts to insert a

pattern. She asks to listen to the pattern on the machine before inserting the pattern
into her song. When she discovers that this is not possible without switching to the
pattern mode first, she wonders why this is so. Susan feels that this is not a good
way to do things. She wonders if it would be possible to redesign the machine to allow a button so that I could listen without switching.

I encourage Susan to continue with her song. She picks Pattern 26. After changing the tempo from 120 to 110 qpm, Susan listens to her song.

JN Is there a title for this song?
SG Out there somewhere
JN Let's listen to the song before we finish for today. Any words come to mind?
SG Uh Someone is out there waiting for me to love them-Uh one day you will find them. It takes time and patience. They'll not make you upset, sometimes -but don't be too young
JN Who would dedicate that song to?
SG Kids my age, I guess. Because they are trying to grow up too fast.

(Session Transcript)

Susan agrees that she is growing up too fast. We end our session and schedule one for the following week.

Session Three

This session is not on the regularly scheduled day because of Susan's prior absence. This time was scheduled the morning of the session. Susan does not have her QY-10 with her. She uses my unit that does not have her songs stored to memory. Susan is very concerned that she is not prepared. I assure that it is all right to use my machine. I encourage Susan to work on a new song since she does not have her songs with her. After some reluctance, Susan agrees and works on a new song. I ask Susan what she created with her machine called Pal. She tells me that she does not like that name anymore; she has not come up with a new name yet. Susan has used Patterns 98 and 99 at home. She would like to use them again.

We go on to create a new song on the QY-10. Susan is interested in creating different tempos in the same song to vary the pace of the drum patterns. I
demonstrate how to accomplish this. Susan then enters a new song in to the sequencer.

I comment to Susan that she has really mastered the operations of the sequencer. She agrees and shows me how to change tempos and patterns on my machine.

The music we create reminds Susan of water. Susan enters the music into the QY-10 without assistance. She completes her song and then plays it back. The song starts with an unaccompanied four measure drum phrase Pattern 99. The song has sixteen measures of chords C, F, and C moving four measures each, using Pattern 25. The music then continues with an eight measure drum fill in Pattern 99.

SG To me it sounds like surfing
JN It made me feel like dancing. What groups does the music remind you of?
SG The Beach Boys.
JN Um Beach Boys with a hip hop groove, I think you may be on to something here.
SG (laughs) Yeah
JN Do you want to write something about the water or surfing or is there something else you would like to write about?
SG I don't know, that's all I've come to.
JN Okay, would you like to stretch this out more then? Maybe come up with a melody for this? Or, maybe leave the song as it is?
SG Uh (pause)
JN If you're happy with the way it is, we could just let it be.
SG Yeah, it's good. I like it.

(Session Transcript)

We move on to writing a new song. Susan is upset about her friend Jane who she feels is a backstaber. She feels Jane has not been trustworthy and has gone on to a new clique of friends who are all snitty. I redirect Susan to discussing her frequent moves and how it has effected her relationships with her friends. This leads to a discussion of her situation at home. Susan tells me that she has had a difficult time lately. She has moved six times in the last two years. I ask if there
are parallels between her friends backstabbing and the way her father treats her. She answers no, but this discussion appears to make Susan uncomfortable. Susan asks if she can do a new song.

She picks the theme of Hardships. Susan decides that this will be a slow song. She creates a song using the Pattern 54. To enter the song, Susan asks for direction to erase the previous song. She plays back the song and corrects the errors in the patterns so that the entire song has Pattern 54. Susan listens to the song.

SG  Cool
JN  Yes, now where do we go? You want to call this Hardships? Do you want to put words to it?
SG  Okay. What shall I say?
JN  I’m going to let you go with this song. When you ask me to help you with something, I’ll jump back in to help.
SG  Okay. SG then starts the sequence playing and listens to entire sequence. She then plays it again. The school bell rings and Susan should leave for class.
JN  We still have 5 more minutes
SG  I know. How about Hardships here?
JN  At measure five?
SG  Yeah
JN  You know if you are feeling rushed today, you can write down the pattern you are using and the chords and continue this on your machine. Then on Friday we can pick this up again after you’ve had some time to write about it. One of the things that we’ve been talking about is the idea that it’s difficult to maintain relationships when you’re moving around so much. When you do have a good relationship and someone is not being very honest with you. It might be something to write about
SG  Okay, I’ll work on it.
JN  So you work on that and on Friday if you feel like it we can pick up right where we left off.
SG  Okay. That’s pattern 54.
JN  That’s 54 and the Notes are D for 4 measures then up to A for 4 measures then Bb, A, D all for 4 measures then it cycles around again two more time it seems
SG  Yeah I went down and up
JN  On Friday we can add the other instruments if you want and work on this for a while.
SG  Yeah, I like this one

(Session Transcript)
We end the session.

Session Four

I invite Susan to use the equipment in the music therapy room. The equipment consists of a microphone, Octapad, Casio PMP 300 keyboard, and a computer. Susan declines to play these instruments and begins to play her sequence on the QY-10. The sequence is a continuation of the one started in the previous session. The sequence is approximately forty-eight measures long and uses Pattern 54.

Susan tells me that the song I just heard is “Hardships.” I direct Susan to work on a melody to accompany her sequence. She tells me that she has written lyrics at home. I encourage her to sing them into the microphone while I operate the QY-10. Susan is not pleased with the accompaniment of the QY-10 so I suggest turning off the backing and rhythm tracks and using the QY-10 as a drum machine. Susan agrees to this; I show her how to mute the volume on the unwanted tracks. Susan asks me to play the keyboard and to play along with the drum tracks.

Susan proceeds to sing the following lyrics. I stop Susan at the end of every phrase to play back the melody she has sung. Using the Casio PMP 300 keyboard, I accompany her singing.

Lyrics:

Moving around month after month.
When will all it come to an end?
When will my life be the same as before?
When will it all come to an end?
Hardships. I've got hardships.
Everyday, every month, every year. Hardships.
I was coming home from school.
And I opened the door.
He said he was leaving, So he kissed me good-bye.
I didn't see him for two months
Hardships. I've got hardships.
Everyday, every month, every year. Hardships.

(Session Transcript)

I discuss this composition with Susan. Our discussion includes her relationship with both of her parents and her feeling of powerlessness in the midst of all of this tumult. Susan tells me that most of the lyrics are from her real life and that she is very angry with her father. I ask her she would like her father to hear this song. Susan does not want him to hear the song. I direct Susan to play the song again.

We play the song again with me playing the Casio PMP 300 Keyboard using the Vibraphone sound. Susan operates the QY-10 playing the Pattern 54. She sings the same lyrics listed above into the microphone. Midway through the singing, Susan stops the song and says:

SG I messed up. I sang when will my life come to and end? (laughs)
JN Yes, you've done that a couple of times. Is that something you think about?
SG Oh no, definitely not!
JN Well you've sung it that way three times now. Is that how you wrote it?
SG No. I wrote the word it. But I keep saying life for some reason.
JN If you feel that you want to explore this more we can
SG No, let's do the song.

(Session Transcript)

We restart the sequence and play the song again. At the conclusion of the song, we discuss how Susan feels about her work. She tells me that she does not feel complete and would like to add something more to her song. I direct her to look at the lyric's content and think about the present and future tenses of her problem. She understands my direction and suggests how she will add to the song to discuss her present and future approaches to coping with this situation. I encourage her to continue to work on this song.
JN I think it's important that you work on this song. It seems that this is something you've been carrying around for two years now. It's still very much there for you.
SG Yeah it is.
JN Experience has shown me, that it is helpful to make music about the things that are bothering me. Do you that this might be something that will benefit you?
SG Yeah, I think so, (pause) it helps a lot.
JN We have enough time to run through the song again.

(Session Transcript)

We then play through the song again. Susan sings the lyrics as written with no variations. We end the session by discussing how to reset the QY-10 to turn on the volume again for the different tracks that were previously muted. We then schedule a session for the following week.

Session Five

Susan comes into session and gets right to work on her song “Hardships.” She had prepared her lyrics on index cards, and is prepared to sing the lyrics. Susan auditioned two different drum tracks, Patterns 55 and 56, before returning to the original Pattern 54. Susan sets the tempo to 110 qpm and asks me to accompany her on the Casio PMP 300 with a vibraphone sound. Susan begins the sequence and sings these lyrics:

Lyrics

Moving around month after month.
When will all come to an end?
When will my life be the same as before?
When will it all come to an end?
Hardships. I've got hardships.
Everyday, every week, every month.
I was coming home from school.
And I opened the door.
He said he was leaving, So he kissed me good-bye.
Hardships. I've got hardships.
Everyday, every week, every month.
Doesn't he miss me?
After all, I'm his daughter.
Doesn't he miss me?
Hardships. I've got hardships.
Everyday, every week, and every month.
I haven't seen him in 12 weeks
How could he live without me?
Doesn't he care about me?
Doesn't he miss me?
Hardships. I've got hardships.
Everyday, every week, and every month.
Because of what he's doing
I really don't care about him.
Hardships. I've got hardships.
Everyday, every week, and every month.
Oh Hardships.

JN Wow that's powerful stuff. The beginning part is from last week.
SG Right, I just changed the doesn't he miss me and then I added more
short parts and long parts.
JN And then, (pause) you talk about how he hasn't been around,
SG Uh huh.
JN And, how you don't care about him.
SG I really don't. I talk about it in the doesn't he miss me part.
JN What was it like for you after you wrote this new part? Did you feel
any differently about the situation?
SG A little different, I guess.

(Session Transcript)

Susan tells me that she feels complete with the writing of this song. She
would now like to work on her performance of the song. Susan would like to
record the song for her mother to hear. As we rehearse the song, Susan comes up
with ideas for changing the tempo and drum patterns.

JN So you want the drums to change at this point?
SG Yeah, I want it to change.
JN Well let's see what we have -(referring to drum patterns)
SG then starts playing through several drum patterns on the QY-10. She
selects pattern 99 and lets it play for several measures.
JN That would certainly be a big change in the song.
SG Well not all of it just (sings) I don't care about you any more part.

(Session Transcript)

I try different keyboard sounds. After playing several sounds, Susan stops
me to say that what I am playing sounds like the music from the TV show Doogie
Howser. I play the theme from the show. Susan laughs I then demonstrate other sounds. Susan selects the brass sound as the one to use for the section. Susan sings the lyrics and shows where she wants the section to enter.

We rehearse the song with the new section. After several attempts of trying to coordinate the drums, Susan becomes frustrated. I suggest that we try to sequence the song next session using the Macintosh computer. Susan agrees to try this: I suggest that we try the song again with our remaining session time.

Susan starts the drum sequence on the QY-10 and sings the song through without the change in drum parts. I play along with the singing and change the keyboard sound from vibraphone to brass at the new section. After we finish, Susan is not pleased with her performance. She wants more emphasis on the new section.

JN Like this (plays ending of song)
SG Sort of, more like this (sings loudly) I don't care about him!
JN You really want that part accented.
SG Yeah (laughs) Because it's the last note and it hits the chords one more time and then it's the end of the song.
JN Is that how you're feeling—that you want this to be the strongest part of the song?
SG I just want to kill him.
JN So that's why you want this to be the strongest part?
SG Yeah.
JN Are you going to give this tape to your Dad one day?
SG Maybe if he behaves.
JN Behaves how?
SG If I do see him—
JN Do you think you'll see him anytime soon?
SG There's a possibility. He still has to help my mother out with the money and all. And things that my mother has to do with him. But if I do, I'll be real sure to let him know that's how I felt. Make him real sad.
JN Make him feel sad?
SG (laughs) Make him feel guilty.
JN Sounds like you're very angry with him. It's great that you're acknowledging that. We are out of time for today.

(Session Transcript)

We make plans for our last session.
Session Six

I begin the session by reminding Susan that this is our last session together. She acknowledges this and begins work on her song Hardships. She has added a line at the end of the song. I demonstrate some sounds that she can use for her recording of the song. Susan selects the Vibraphone.

We attempt to sing the song through when Susan stops abruptly. She is not pleased with her performance. She feels the music is too fast. I slow the tempo down to 105 qpm. We play the song again.

Lyrics-

Moving around month after month.
When will all come to an end?
When will my life be the same as before?
When will it all come to an end?
Hardships. I've got hardships.
Everyday, every week, every month.
I was coming home from school.
And I opened the door.
He said he was leaving, So he kissed me good-bye.
Is it my fault? What's happening?
Is it all mine?
Hardships. I've got hardships.
Everyday, every week, every month.
Doesn't he love me?
Doesn't he miss me?
After all, I'm his daughter.
Doesn't he miss me?
Doesn't he love me?
After all, I'm his daughter.
Hardships. I've got hardships.
Everyday, every week, and every month.
I haven't seen him in 12 weeks
How could he live without me?
As I said before-
Doesn't he miss me?
Hardships. I've got hardships.
Everyday, every week, and every month.
Didn't he ruin my life enough
Why doesn't he just call it quits
Doesn't he care me?
I know I don't care about him.
Hardships. I've got hardships.
Everyday, every week, and every month. Oh Hardships.

JN There's a new line at the end. Was that there last time?
SG No.
JN That's very powerful. I remember the doesn't he miss me part. But
   Didn't he ruin my life enough is new isn't it?
SG Well I added it as I was singing it. But it's Didn't he ruin my life?
   Why doesn't he just call it quits?
JN When you ask him to call it quits what would you like him to do?
SG I don't really know.
JN Would you like for him not to be your Dad anymore?
SG No, just to act more like a father.
JN Act more like a father and come back?
SG No, not come back. (Pause) Um-you know-Help my Mother out a
   little more.

(Session Transcript)

We continue to discuss Susan and her relationship to her mother and her
father. Susan's mother pressures her not to have a relationship with her father.
Susan tells me that she is not angry with her mother, her father is the cause of all of
their problems. I ask Susan if there is anything that she needs to do to end our
session time together. She tells me no, she has said all she needs to in the song.

With the session time over, I ask Susan if we can discuss the instruments
we used in our sessions.

JN Okay, I'd like to ask you some questions about the QY-10 if it's all
   right.
SG Sure.
JN When you used the QY-10 at home, did you feel you got a chance to
   really make music on it?
SG Yes, I did.
JN If the QY-10 was a person, what kind of person would it be?
SG A helping person.
JN A helping person?
SG Yes.
JN What was helpful about it?
SG It helped me to write this song. The type of tempo I wanted and the
   rhythms and beats I wanted. There are other instruments, but is one
   is different.
JN And what about using it to work to put the songs in. Did you find that
to be helpful?
SG Yeah! It was fun too. I liked sitting down and trying to figure out how
to do something.
JN So, that was challenging to you?
SG Yeah.
JN Do you feel that you really got to know how to use the QY-10?
SG Yeah. Pretty much.
JN If you had a choice—Did we ever come up with a final name for this anyway?
SG No, I couldn’t really think of any.
JN But if you had a choice of playing this QY-10 or the keyboard or the pads, which we really didn’t use that much, which would you choose?
SG The QY-10. There’s more on that I could use.
JN And what about the adding the computer as we did? Did you find that helpful?
SG A little.
JN Well, I’d like to thank you for your time and the way you worked with me. I hope that you keep working to find ways to express yourself through music.
SG I’ll try.

(Session Transcript)

We say good-bye.
APPENDIX E

TIMMY'S SESSION SUMMARY

Session One

The session begins with my demonstrating the QY-10 to Timmy. I play the demo sequences to Timmy on the QY-10 in their entirety. This was necessary because he cannot bring the machine home. Timmy relates that he likes the music that he has heard. He recognizes the beats from the radio. I explain to Timmy that I will show him how to work the QY-10. I caution him that the device can be difficult to operate. He assures me that he will stop and question me when he does not understand me.

I demonstrate the method to play a sequence on the QY-10. I show Timmy the different Patterns starting with Pattern 24. We use the Yes and No buttons to cycle through patterns 25 and 26. Timmy selects Pattern 26. We listen to the Pattern. Timmy appears to be intrigued. I ask him about this:

JN All right, You know this machine could use a name. We keep calling it this or that. Can you give me a name for it?
TJ Justice.
JN Justice. Okay let's make some music with Justice. That's an interesting choice of a name. Any reason that you picked it?
TJ Nope.

(Session Transcript)

I show Timmy the other instruments in the room. I tell Timmy that he has the option to play any of the other instruments. He chooses the QY-10. I ask Timmy if he would like to create a song. He is interested. I direct Timmy through a lyric writing process. He writes these lyrics:
Lyrics

I'm Fine. It's fun I learned a lot. 
But, people are selling drugs in my neighborhood. 
It makes me feel bad. I don't like it. It frightens me. 
And I hope it would stop.

(Session Transcript)

I demonstrate how to enter the sequence in a step by step fashion. Timmy enters twenty-six bars of music in to the QY-10 sequencer. Timmy then picks Pattern 29 He plays it back and listens. I direct Timmy to sing his lyrics to his sequence. Timmy does and is pleased with his efforts. I review what we have done in the session. Timmy confirms that these are the events that occurred. I end the session and schedule another session for the following week.

Session Two

The session begins with Timmy using the Octapad to trigger the Proteus One Sound Module. I demonstrate the various options of the Octapad. This includes the a, b, c, and d functions and notes on the eight different pads.

JN What would you like today?
TJ This (referring to the drum pads)
JN What sounds would you like?
TJ This. (Referring to the drum sounds)
JN You have eight different sounds, what would you like me to do?
TJ Wanna test it out.
JN Okay, I'll listen.
TJ How do it know which note to hit?
JN Do you see on this keyboard how each note has a different sound? I just set up each pad to act like each one of these keys. Do you understand this?
TJ Uh huh.
JN I know that this can be confusing. Would you like me to explain it again.
TJ No, I got it. (Plays pads)
Timmy plays a drum beat with snare kick and hi hat. The snare plays beats 2 and 4. The kick drum plays beats 1 and 3. The hi hat sound attempts eighth notes. At the end of the improvisation, Timmy appears to be pleased with his music making.

TJ I made that up?
JN Yes
TJ I need to give this thing a name too. Let's see-the Rapping Nagler-no the Beat Nagler-that's it.
JN So, you named it after me. Thank you. Now you have Justice and the Beat Nagler. Would you like to use the two together?
TJ Okay.
JN Let's pick a beat and try it out.

(Session Transcript)

Timmy listens to Pattern 28 and then Pattern 24. He chooses Pattern 24 and plays drum sounds on the Octapad along with the QY-10 Pattern. He imitates the rhythmic patterns of Pattern 24 and plays along with the snare and kick drums. Timmy attempts to match the pattern with many variations. His tempo is inconsistent. His dynamics are primarily loud with little variation towards a softer dynamic.

Timmy asks if I can play along with his Octapad playing. I agree, we improvise together. Timmy plays a rhythm similar to the Pattern 24. I play a chord accompaniment of repetitive eight notes. Towards the end of our improvisation, Timmy doubles the tempo and plays to a crescendo and then stops. The music lasts 2 minutes and 47 seconds.

Timmy declines to create lyrics for our improvisation. He tells me that it feels great to play the drums and that he would like to play more music. We begin a second improvisation. Timmy uses the d setting on the Octapad. He chooses a string sound from the Proteus sound module. I play a Synth reed sound on the Casio PMP 300 keyboard that Timmy selects for me. We improvise a melody that
is pentatonic in tonality. I play a series of Eb minor chords to Timmy's melody. The music lasts 3 minutes, 36 seconds.

Timmy decides to have the QY-10 play along with our next improvisation. This adds a third sound source for our playing. Timmy listens to Patterns 54, 28, and 56. He chooses Pattern 54. I write a thirty-two measure sequence using the sequencer of the QY-10 using Pattern 54. The chord progression of this sequence alternates between eight measures of Eb minor 7th, followed by eight measures of Ab Major. Timmy and I play along with this sequence. We repeat the thirty-two measure four times for a total of 4 minutes and 14 seconds of music.

Timmy calls this music “I don't know.” He tells me that the music “makes me feel all right.” We end the session and schedule another for the following week.

**Session Three**

We begin today's session by discussing activities that Timmy participates in outside of school. Timmy tells me that he likes to play basketball and ride bikes. He talks about the gun fire shoot outs that occur nightly from rival gangs. Timmy tells me that these gangs are all around his neighborhood. Timmy asks about the Macintosh computer and its use in music making. I demonstrate how the computer can be used as a sequencer. I play the Octapad and show Timmy how the computer can record the MIDI events.

I demonstrate the different sounds that are available on the Proteus One Sound Module. Timmy selects Drums sound for the Octapad, and the Synth Ensemble for me to play on the Casio PMP 300 keyboard. We play for 2 minutes 45 seconds. Timmy plays a repeating drum rhythm. He uses snare, kick and hi hat sounds. The snare plays on beats 2 and 4. The kick plays on 1 and 3. The hi hats approximate eighth notes. I play a series of chord progressions that follow with
Timmy's rhythm. Timmy has less difficulty maintaining consistency in his rhythm than last session. We use the computer to record a second improvisation. It is similar in content to the first improvisation. We use the same instrumentation as the first improvisation.

TJ Did I do that?
JN All of those dots are what you did.
TJ Wow!
JN Would you like to add another sound?
TJ Yeah.

(Session Transcript)

Timmy selects sounds from the Proteus One Sound Module. They are Organ and Strings. He improvises and records his music. After Timmy finishes his improvisation, we listen back to the music recorded on the computer.

JN How do you feel when you make this music?
TJ Wish I could be a star for that.
JN What do you want to call this piece of music?
TJ I don't know.
JN What is the first thing that comes to mind? (pause) Would you like to hear it again?
TJ Okay (They listen to the piece)
JN Anything come to mind?
TJ Wanna call it Rock.
JN Great, We have five minutes left. Is there anything else you want to tell me about this music?
TJ I'd wanna sing it to my kids someday
JN Do you want to have kids someday?
TJ I don't know
JN But this is something that you would sing to them if you had them?
TJ I guess.
JN Does the music mean anything else to you?
TJ Nah.

(Session Transcript)

I ask Timmy if he has a preference of instruments. He tells me the Beat Nagler (Octapad). I ask him why.

JN What is it about the pads that you like?
TJ I like hitting them and the beat.
JN I see, Do you like the beats in Justice?
TJ Yeah but I like to hit this bad boy.
JN Well we are out of time. See you next week.
TJ Bye.

(Session Transcript)

Session Four

Timmy enters the session and is visibly angry about an event that occurred in his classroom prior to coming to session. I ask him how he is and he replies Fine. I attempt to redirect Timmy towards working with his anger through the music. Timmy declines this opportunity. I redirect Timmy to the Octapad and ask him to play his anger. He plays five notes on the Octapad and tells me “That’s all.” I suggest that we move on to a new subject. Timmy agrees. He suggests playing music about being “Happy.” Timmy requests a keyboard to play. He directs me to play a keyboard along with him.

We improvise using two keyboards. The sounds in the improvisation consists of Timmy running his fingers up and down the keyboard. I mirror his motions and add to the improvisation. The improvisation moves through just about every sound available on the Casio keyboard. I initiate a repetitive drum part on the keys of the Casio. Timmy imitates the drum part as he switches over to the Octapad. Timmy uses several of the loud percussion sounds that are available on the Casio keyboard. The improvisation ends on a loud climactic crescendo. After the improvisation, Timmy tells me that he is finished. I try to redirect him towards another musical activity.

JN How about --?
TJ No.
JN I didn’t even say my idea and you said no.
TJ I don’t want to do it. I don’t want to do anything.
JN What about using Justice?
TJ No.
JN What would you like to do?
TJ I wanna use everything.
JN Well, then go ahead.

(Session Transcript)

Timmy plays along with Pattern 70 on the QY-10 using the Octapad. He uses the Latin percussion sounds on both the keyboard and the Octapad to create his improvisation. I do not actively participate in the music making; I observe. Midway through the improvisation, Timmy activates the demo sequence on the QY-10. He plays along with it briefly and then switches it off and plays the keys. I attempt to join the improvisation. I play sparse chords on the Casio PMP 300 to Timmy’s improvisation. Timmy does not acknowledge this musically. I then mirror the drum pattern with a repetitive sixteenth-eighth note rhythm. Timmy responds to this with sustained chords on the Casio PMP 300. The improvisation ends abruptly.

I direct Timmy towards discussing his music making. He declines my invitation. I ask Timmy to describe his music as an animal. He tells me of a big and mean white polar bear that is nice named I Don’t Know. He tells me that this bear is like the polar bear that ate his brother’s friend. I ask him for more details about this encounter with the polar bear. Timmy does not supply any additional details. Timmy asks to create more music on the Octapad. He asks to play a rap beat. I direct him to play letter a on the Octapad. Timmy plays a rap beat. I accompany him on with the organ sound on the Casio PMP 300 keyboard. It is a brief improvisation that lasts 1 minute 24 seconds. We are out of time for today. We close this session and schedule another session for the following week.

Session Five
Timmy enters this session angry. He had a substitute teacher who did not allow him to draw or color at his desk. He told me that he was “Fine-fine as always, the same thing.” I asked him if he would like to try something different today. He agreed. I proposed the idea of playing a musical game.

TJ Yeah. What game?
JN It’s a musical game. Pick an instrument.
TJ I want this (Octapad).
JN Now, I’m going to say to you I wish or I am or something with the word I in it. Then you are going to play the music that goes with it. Okay?
TJ Yeah.
JN Let’s try the first one. I am-
TJ (Plays 3 notes sings) I am Timmy.
JN I wish-
TJ (Plays 5 notes sings) I wish I were the teacher.
JN You wish you were the teacher?
TJ (Plays 3 notes sings) I wish I were the teacher.
JN I feel -
TJ (Plays 5 notes sings) I feel like myself.
JN I like-
TJ Mr. Z (Plays 7 notes sings)
JN I don’t like-
TJ Mr. B (Plays 6 notes sings)
JN I don’t like Mr. B because-
TJ I hate him (Plays 11 notes sings)
JN playing keyboard and singing- I hate him because
TJ (Plays 3 notes sings) He gets on my nerves.
JN (Plays keyboard and sings) How does he get on your nerves?
TJ (Plays 13 notes sings) He thinks I bother everybody
JN (Plays keyboard and sings) Why do you bother everybody?
TJ (Plays 9 notes sings) I don’t bother everybody
JN (Plays keyboard and sings) So, why does he think you do?
TJ (Plays 15 notes sings) People always getting me in trouble.
JN (Plays keyboard and sings) People always getting me in trouble?
TJ (Plays 5 notes sings) Yes-yes-yes-yes-yes-yes!
JN (Plays keyboard and sings) Yes, yes yes yes yes yes? How do they get you in trouble?
TJ (Plays 5 notes sings) They say I always bother them.
JN (Plays keyboard and sings) Do you do anything to bother them?
TJ (Plays 5 notes sings) No-no-no-no-no-no.
JN (Plays keyboard and sings) So why do you get in trouble?
TJ (Plays 3 notes sings) I don’t know
JN (Plays keyboard and sings) So, you are always innocent?
TJ (Plays 1 note sings) Yes
JN (Plays keyboard and sings) Maybe one time.
TJ (Plays 11 notes sings) Yes-on the bus-I was jumping seat to seat
JN (Plays keyboard and sings) Seat to seat?
TJ (Plays 3 notes sings) Yes . Yes Yes
JN  How about another time in school
TJ  (Plays 7 notes sings) Yeah. Girls said I hit her..
JN  (Plays keyboard and  sings) Any other time?
TJ  (Plays 5 notes sings) Yeah-Yeah I beat up a kid.  
JN  (Plays keyboard and  sings) Did he bother you?
TJ  (Plays 4 notes sings) Yeah-he bother me

(Session Transcript)

Timmy and I continue our duet. We sing about the punishment he receives
in school, his desire to be the principal and his hatred for the school's Dean of
Discipline. I ask Timmy to shift his attention on his home life. Timmy sings of the
drug dealers in his neighborhood, a white drug addict in his neighborhood and his
mother. We end our duet. I ask Timmy if he would like to play more of our game.
Timmy agrees. We review all of the people they named in the previous song and
then go on to a new song. All dialogue is sung in a call and response fashion with
me playing the notes sung in chords on the Casio PMP 300 keyboard. Timmy
responds by playing the drum pads with a string sound. He plays one beat per
syllable to match his singing.

JN  What about a song about Timmy?
TJ  Okay.
JN  In this game we are not going to talk about the real Timmy. Instead we
   are going to talk about the Timmy that you would like to be. Did you
   ever think about how you would like to be?
TJ  Yeah.
JN  Can you close your eyes and think about how Timmy would like to be?
TJ  I don't want to close my eyes.
JN  All right. let's do it with your eyes open. Who is Timmy like?
TJ  A strong man.
JN  Let's sing about it. I am-
TJ  A strong man.
JN  I live -
TJ  in a big house
JN  I have-
TJ  muscles
JN  And-
TJ  a mustache and hair
JN  Anything else?
TJ  Lots of girls
JN  And thing else?
TJ  I love them all.
JN What else do you have?
TJ A brother.
JN Do you like him?
TJ Yes.
JN When Timmy goes out with his Muscles and his mustache and his girls and his brother what does he do with them?
TJ He don't do nothing because he always gets his own.
JN How does he do it?
TJ He gets it.
JN How does Timmy get money?
TJ By working.
JN Where?
TJ At the ring toss.
JN Is this a game in Coney Island?
TJ Yeah.
JN Do you play that a lot?
TJ Yeah.
JN Does Timmy own the ring toss he works at?
TJ Yes he does.
JN Does he have people that work for him?
TJ Yes.
JN Does Timmy make a lot of money.
TJ Yes.
JN Does he have a car?
TJ A Toyota.
JN Does Timmy have a house?
TJ Yes.
JN Where?
TJ Next to the Marlboro Projects
JN Who lives with him?
TJ Brother and sister and mother.
JN Father?
TJ Yes.
JN Cousins?
TJ Nope.
JN So it's Timmy, the muscles, the mustache, the Toyota, the ring toss and your mom, dad, brother, and sister in a house. Is that right?
TJ Yes, it is.
JN We are just about out of time for today. Is there something that you would like to do to end our time together for today?
TJ No
JN Well thank you for making music with me today. Is there anything about the music that was special for you.
TJ I liked singing and playing the drums.
JN What was it about the singing.
TJ I liked singing about the muscles and mustache and stuff.
JN I heard that. What about the drums?
TJ I t was fun.
JN Thank you for playing music with me today. I'll see you next week for our last session.

(Session Transcript)
Session Six

Timmy comes to session in an angry mood once again. We play an improvisation. Timmy is playing the Octapad with a piano sound from the Casio keyboard. The Octapad is set to letter a. I am playing the Casio PMP 300 keyboard with a vibraphone sound. The improvisation is 3 minutes 13 seconds long. I play chordal accompaniment to Timmy's single notes.

I ask Timmy if he would like to play the musical game from last session. He agrees. I direct Timmy to imagine that the music we have just played is an animal. Timmy tells me that the animal is a fast, black friendly tiger named, Wildcat. Timmy asks if we can play more music. I agree. I suggest that we think of something different in our music making. Timmy is silent. I suggest that we think of video games. Timmy tells me that he is playing Spiderman. I am told that I am playing Sonic Hedgehog. We use Pattern 68 on the QY-10 as a base for our improvisation. Timmy plays the Octapad with a piano sound form the Casio PMP 300. I play a separate Casio PMP 300 with and organ sound. The improvisation is quick paced and loud. I play a series of small, cluttered chords to Timmy’s rapid drum playing. The improvisation lasts 2 minutes and 12 seconds.

I ask Timmy if the music sounded like a wildcat to him. He said no. He found that it was more like Jazz. Timmy declines to make music. He tells me confidentially of a secret girlfriend who is white. I attempt to direct Timmy to playing music. He refuses. Suddenly, Timmy asks for a new Pattern on the QY-10. I begin to demonstrate several patterns, when Timmy interrupts. He asks for Pattern 68 again. I play this pattern. He looks at me and tells me “That's all.”

Timmy and I discuss the instruments that he has played in our sessions. Timmy had preference of the Octapad and the QY-10 as his instruments of choice.

JN Why do you like the Octapad?
TJ I like to hit it.
JN Do you like Justice?
TJ I like Justice okay.
JN Why?
TJ It does more.
JN Do you have a favorite sound on Justice?
TJ This one (Pattern 68)
JN Any others?
TJ (Pattern 54) I think about somebody-
JN Who's that?
TJ You know that girl-
JN Nicole?
TJ Pattern 47-This one makes, me think about my brother.
JN I see.
TJ (Pattern 26 and Pattern 27) make me think about my dancing and a disco
JN Any others?
TJ Pattern 89 I think of James Brown.
JN Yeah me too. Anything else?
TJ Nope.

(Session Transcript)

We end our sessions together.
APPENDIX F

HUMAN SUBJECTS STATEMENT

Participants in this study will be recruited from the population of an elementary public school in Brooklyn, New York. The children who will be considered for inclusion in this study will be those that have been referred by the faculty and school based support staff as being in crisis at the time of referral.

The principal investigator will provide prospective participants with the attached Statement to the Subjects and the parental consent form.

Data collected from the computer and audio taped sessions along with the written transcripts will be reported in the dissertation. However, names and identifying characteristics will be changed to insure the participant's privacy.

As stated in the consent form, participation in this study is voluntary and each participant has the right to withdraw from the study at any time.

Music therapy intervention and the related technology used in this study do no involve any health risks. There is no potential physical harm from participation in this study.
APPENDIX G

STATEMENT TO THE SUBJECTS

In this study the principal investigator will be attempting to identify and implement current electronic music technology that aid in the music therapy process.

Participation in this study is voluntary and will not adversely effect the patient's rights or welfare. It will involve:

1. Participation in a series of at least six music therapy sessions. Each of these sessions will be approximately thirty minutes in length.

2. The music therapy session will be recorded via audio tape and on computer. A written transcript of the session will be taken of both. Participants may have a copy of the audio tape and the transcripts if they so choose.

Participants may withdraw from the study at any time. If requested, the principal investigator will destroy the transcript and the audio tape. This music therapy intervention does not involve any health risks. There is no potential harm for those participating in this study.
APPENDIX H
CONSENT FORM

I have agreed to participate in this study which is seeking to identify and implement current electronic music technology that aid in the music therapy process and hereby give my consent to be a subject.

The principal investigator has explained that my participation in the study is voluntary and involves the following:

1. Participation in a series of at least six music therapy sessions. Each of these sessions will be approximately thirty minutes in length.

2. The music therapy session will be recorded via audio tape and on computer. A written transcript of the session will be taken of both. I may have a copy of the audio tape and the transcripts if I so choose.

3. I may withdraw from the study at any time. If requested, the principal investigator will destroy the transcript and the audio tape.

4. I am free to contact the principal investigator should I have any questions about this study.

Subject's Signature ___________________________ Date __________

Parent's or Guardian's Signature ___________________________ Date __________

Joseph C. Nagler, MA CMT Principal Investigator Date __________