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Cognitive Behavioral Music Therapy in Forensic Psychiatry

Workable Assumptions, Empirical Studies and Theoretical
Foundations for Primary Goal-oriented Treatment

Proefschrift ter verkrijging van de graad van doctor

aan Tilburg University,

op gezag van de rector magnificus,

prof. dr. Ph. Eijlander

in het openbaar te verdedigen ten overstaan van een

door het college voor promoties aangewezen commissie

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Cognitive behavioral music therapy in forensic psychiatry

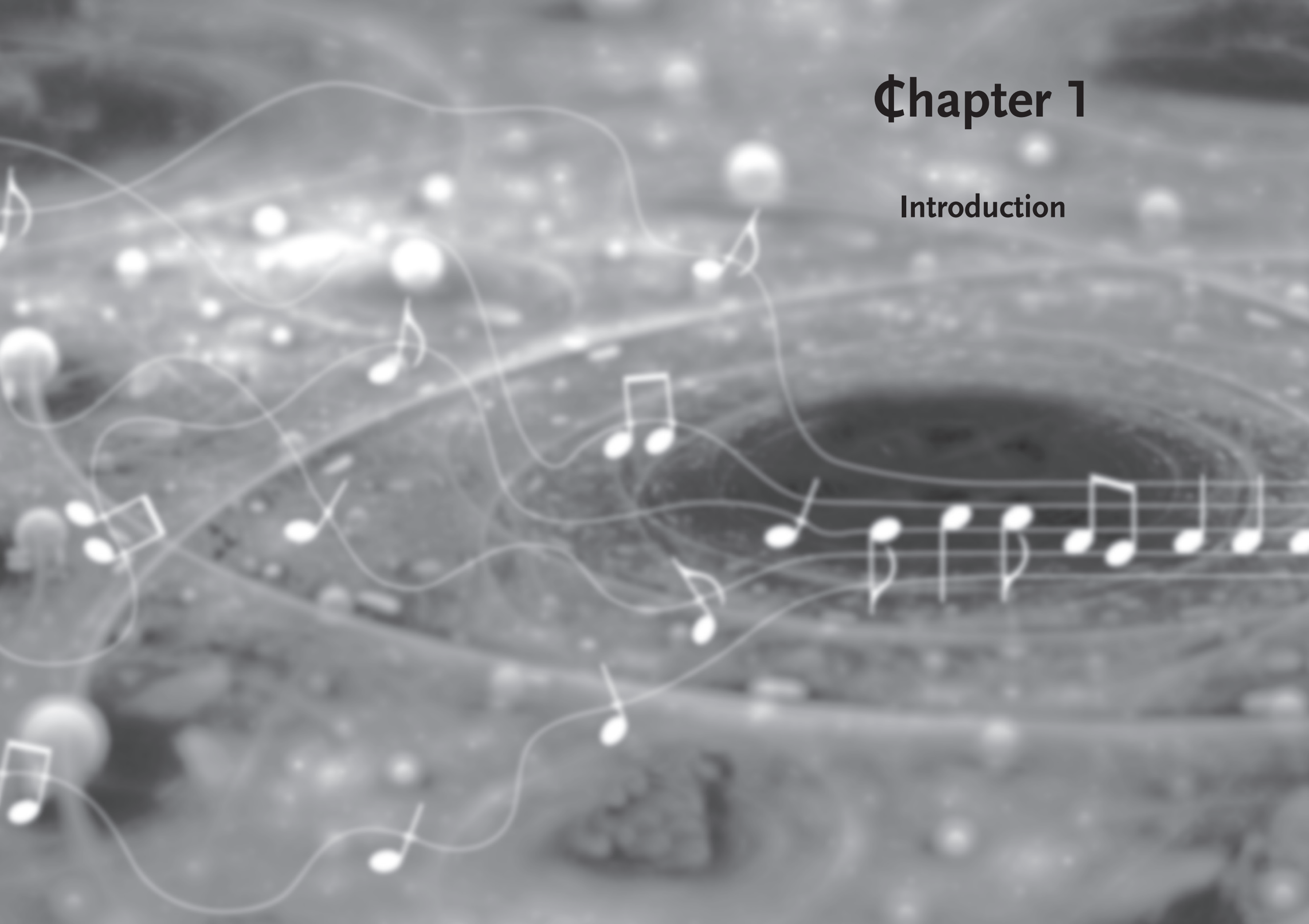
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Chapter 1

Introduction



Introduction¹

¹The author wants to acknowledge especially dr. R. Torenvlied for his remarks on earlier drafts.

²Underlined words fall on the first beat of the measure and are emphasized.

³The author wishes to thank N.J.v.d.V. for permission to use the excerpt of this rap-text.

When² I wake up it's every day the same³
put the music on, it's nothing but a game.
(...) Every week I'm waiting for the music therapy
that's how it is to make my pain free.
My soul, my pain it's all disorder
when I hiss scandal, it's nothing but to order.
(...) Critical decisions gonna pull me through
thanks for supporting I know what to do.
Trapped behind bars is nothing but the truth
so listen to me (...) let the things come true.
Never wants to stop what the music means to me
I try and I try, what do I want to be?

A forensic psychiatric patient wrote this rap text for his seventh session of music therapy. It was his eighth week since admission in a forensic psychiatric clinic and during the past weeks, he severely resisted any forensic psychiatric treatment. Nonetheless, he agreed to attend music therapy, mainly because he was allowed to rap. The text he wrote for this session describes his daily life in imprisonment: his emotional and mental troubles, and the role that music therapy plays in his process to adjust to the living conditions in the clinic.

1.1 Main objective and set-up of the dissertation

1.1.1 Purpose, goals, research questions

This dissertation presents the results of a series of five studies on how music can be applied in a therapeutic and scientifically substantiated way to change risk behavior(s) of patients in forensic psychiatry. The purpose of this dissertation is trying to create a theoretical framework—through literature review as well as empirical research—that describes the possible role of music therapy for forensic psychiatric patients with personality disorders as their primary psychiatric diagnosis. Therefore present treatment protocols are presented, discussed and tested in a forensic psychiatric environment.

This dissertation aims to work towards formulating a theoretical foundation of music therapy treatment in forensic psychiatry by focusing on the 'what works' risk, need and responsivity principles of forensic psychiatric patients as well as knowledge

Table 1.1. Research sub-questions and goals of dissertation

	Research (sub)question	Goal of study	Core assumption	Musical mechanisms	Design method
Chapter 2	Is it possible to observe offence related behavior in musical behavior during assessment?	Describe music therapy practice in a forensic setting and explain its current theoretical foundation.	Theory of Analogy provides explanation for music therapy assessment and treatment.	Containing power of music; Music as reinforcement and to trigger cognition.	Six case vignettes; literature study; preliminary theory building.
Chapter 3	Can we find convincing empirical evidence for the theory of analogy?	Investigate the limitations and possibilities of the theory of analogy as a theoretical foundation for music therapy.	There is conformity between behavior demonstrated during <i>music therapy</i> and <i>daily life</i> .	Music to trigger; emotion, attunement, cognition.	Comparison between music therapy and sociotherapy N=20; literature study; theory falsification; One case vignette.
Chapter 4	How to develop a music therapy intervention program that is based on the core assumptions of the RNR model?	Development of a music therapy program, founded in forensic psychiatric research and tapping into the characteristics of music therapy.	Due to characteristics of music a motivating music therapy anger management program can be designed.	Motivating (rewarding), relaxation, containing music; music to trigger emotion, attunement, cognition.	Three case vignettes; literature study; expert discussion (triangulation); treatment model/program building.
Chapter 5	Is it possible to detect change patterns in the behavior of forensic psychiatric patients, as specified in the music therapy goals and RNR-model?	Explore empirically the possibilities of music therapy as a treatment modality for influencing coping and anger management skills.	Due to characteristics of music the music therapy anger management program is motivating for change.	Motivating (rewarding), relaxation, containing, training music; music to trigger emotion, attunement, cognition.	Explorative study for a Single-blind pre-post-test multi-center Randomized Controlled Trial N=14. Randomization by independent researcher.
Chapter 6	Can we create a theoretical framework that explains possible effectiveness of music therapy within forensic psychiatry?	Articulate a theoretical framework that explains the logic of music therapy as a part of forensic psychiatric treatment.	Music therapy treatment can be effectively applied in forensic psychiatry.	Music can be systematically applied to motivate, reward, relax, contain, train, and trigger emotions, behavior, attunement, cognitions.	Two case vignettes; literature study; elaborate theory building.

from music therapy. Empirically, this dissertation will explore the mechanisms that could drive music therapy treatment results while staying connected to the evidence-based literature in forensic psychiatry and music therapy. The main research question of this dissertation is: *“Can we create a theoretical framework—through literature review as well as empirical research—that explains possible effectiveness of music therapy within forensic psychiatry by validating core assumptions of the risk-, need and responsivity principles as well as musical ones for forensic psychiatric patients with personality disorders as their primary psychiatric diagnosis?”*

To answer this research question we have divided it in several research goals and sub-questions. For a summary, please check Table 1.1

1. As the goal of this dissertation is to address the theoretical framework, we first have to address the current practice of music therapy in forensic psychiatry and its theoretic foundation. In the Netherlands the main applied theory in music therapy is the so-called ‘theory of analogy’ (Smeijster, 2005). The core assumption of this theory is that outer-musical behavior (the way a person behaves in daily life) is observable (and therefore changeable) in musical behavior. The first goal of this dissertation is therefore to describe music therapy practice in a forensic setting and explain its current theoretical foundation. The first research question is: Is it possible—from a combined theoretical and measurement perspective—to observe offence related behavior in musical behavior during assessment?
2. After a theoretical and practical beginning, it is essential to empirically examine whether theory of analogy can be supported by evidence or not. The second goal of the dissertation is to investigate the limitations and possibilities of the theory of analogy as a theoretical foundation for music therapy in forensic psychiatry. We want to compare musical behaviors of forensic psychiatric patients with their behaviors in daily life at the clinic—specifically coping skills, anger management and aggressive behavior. The second research question asks: can we find convincing empirical evidence for the theory of analogy?
3. In forensic psychiatry years of research in the ‘what works’ as treatment offers an extended amount of treatment interven-

tion deriving from the so-called risk-need-responsivity (RNR) model from Andrews, Bonta and Hoge (1990). If music therapy wants to be promising and/or effective in forensic psychiatry, it should adapt to the core assumptions of the RNR model. The intervention program should be based on assumptions of how music therapy effectively intervenes in the factors specified by the RNR principles for forensic psychiatric patients. Therefore the third goal of this dissertation is to develop a music therapy program founded in forensic psychiatric research and tapping into the characteristics of music therapy. The research question is therefore formulated as: How to develop a music therapy intervention program that is based on the core assumptions of the RNR model and utilizing and maximizing the characteristics of music therapy?

4. Again this specific music therapy program has to be investigated empirically. The goal of that study is to explore empirically the possibilities of music therapy as a treatment modality for influencing coping and anger management skills. Because the forensic psychiatric population is very heterogeneous, we focus on the population that according to the literature have higher probabilities to re-offend, forensic psychiatric patients with (antisocial) personality disorders (Andrews, Bonta & Wormith, 2006). Five music therapists in four different forensic psychiatric clinics offered the treatment program. The pre-test and post-test scores were compared to answer the research question: Is it possible to detect change patterns in the behavior of forensic psychiatric patients, as specified in the music therapy goals and the RNR model?

The results and suggestions from these four research questions could provide empirical as well as theoretical clues to create a framework for the role of music therapy in forensic psychiatry.

1.1.2 Brief outline of the dissertation

To answer the research question, an explorative research strategy is applied. The nature of music therapy in forensic psychiatry is not a well-studied area of research, as music makes different appeals on different people. Patterns in musical behavior, and reactions / responses to music can be measured only with difficulty in laboratory facilities, let alone, clinical ones. For this reason, the substantiation in this dissertation partly relies on case vignettes that reflect the general tendencies as well as indications

for individual mechanisms that occur within forensic psychiatric patients. One patient, for example, might cool down when rapping angry texts. Another patient might completely freak out by even hearing a rap song. There is not a single musical style or a single musical assignment, which has the same effect on each and every individual (Gowensmith & Bloom, 1997; Levitin, 2006). Nor does “good” or “bad” music exist (Garofalo, 2010). Hence, for each forensic psychiatric patient the music in the music therapy treatment should be (at least partly) adapted to fit his personal responsivity.

Case vignettes can help us to find deeper explanations or reveal hidden variables that drive variation between patients’ (musical) behaviors—both through and during music. Thus the dissertation broadly follows the case-vignette approach as applied, for example, by Oliver Sacks in his book *Musicophilia* (Sacks, 2007). In the explorative studies generic patterns are studied that could reveal possible tendencies between key variables, and provide clues for new and further explanations (Huberman & Miles, 2002; Yin, 2011).

Chapter 2 explores the first sub-question: Is it possible—from a combined theoretical and measurement perspective—to observe offence related behavior in musical behavior during assessment? The chapter presents a theoretical framework for how music therapy can be applied as an assessment program. The theoretical focus of the chapter is on the theory of analogy between musical behavior, and behavior while making music on the one hand, and daily-life or even offence related behavior at the other hand. Offence related behavior, is behavior at the unit (for example) that shows similarity with behavior occurring just before or during the offence of a patient. The focus of chapter 2 is mainly practical and theoretical, and discusses whether and how music therapy could contribute to the assessment of offence related behavior when applying the theory of analogy. The chapter provides the reader with a number of empirical case vignettes and an overview of practical assignments that were applied during observation.

Chapter 3 reports about the second sub-question: can we find convincing empirical evidence for the theory of analogy? After an exposition of the theory of analogy, possible problems and limitations of the theory are discussed. Empirical data on forensic psychiatric patients’ coping skills, dysfunctional- and

aggressive behaviors are gathered during music therapy. These data are compared with data collected at the living unit about the same behaviors. Results are discussed with regard to its implications for the theoretical foundation of music therapy in forensic psychiatry.

Chapter 4 presents a study that addresses the third sub-question: How to develop a music therapy intervention program that is based on the core assumptions of the RNR model and utilizing and maximizing the characteristics of music therapy? Chapter 4 shifts the focus from the theory of analogy to forensic psychiatric theories as described in the RNR model and reports about the design of a specific music therapy program that fits the RNR model. The music therapy intervention program focuses on the need principles in anger management. It provides the theoretical underpinning for the music therapy anger management program from a forensic psychological, evidence-based point of view. Chapter 4 explains the background of the program, the way it is organized and layered, and practical assignments. In addition, practical examples as well as case vignettes are provided.

Chapter 5 is an empirical study that addresses the fourth sub-question: Is it possible to detect change patterns in the behavior of forensic psychiatric patients, as specified in the music therapy goals and the RNR model? Can we, indeed, find empirical indications for the effectiveness of music therapy for forensic psychiatric patients? The chapter presents an explorative study into the effect of the music therapy anger management program focusing on specific risk-need factors of forensic psychiatric patients: their coping skills, anger management, aggressive- and dysfunctional behavior. The study offers the reader insight in changes that can occur in the behavior of forensic psychiatric patients under music therapy treatment as well as treatment in general. The study's initial design was a single blind Randomized Controlled Trial, but became an explorative study. Due to different circumstances (see Hakvoort, 2011) the amount of participating patients stayed low (N=14). The results provide a first insight in the possible influences of music therapy on specific certain risk behaviors and newly developed skills of forensic psychiatric patients (Hakvoort, Bogaerts, Thaut, & Spreen, 2013). From the results further recommendations are specified for music therapy intervention programs within forensic psychiatry.

Reviewing the different results, workable assumptions, theoretical frameworks and empirical data from chapters 1 through 5, Chapter 6 formulates a new possible theoretical foundation for music therapy. In this chapter, the patterns and results found in the previous chapters are combined into a possible theoretical explanation of the role of music therapy within forensic psychiatry—with a focus on the risk- and need principles of forensic psychiatric patients. The chapter provides a theoretical framework for music therapy and its treatment applications in forensic psychiatry, using a synthesis between music therapy and the RNR model. In addition, chapter 6 provides workable assumptions and theoretical foundations for music therapy in forensic psychiatric settings from a cognitive, behavioral and neurologic perspective. Emphasis is placed upon the ways in which music can trigger neurologic processes and behavioral changes and, on the utilization of the responsivity of forensic psychiatric patients towards music. Besides, chapter 6 offers insight in some of the music therapy sessions by providing the reader with two extensive case vignette studies.

Finally, chapter 7 wraps up all the different contributions into a final conclusion. The contribution of this dissertation to the field of music therapy in forensic psychiatry, and its limitations will be discussed. Suggestions for future research are presented, as well as some informed speculations about the relevance of the present dissertation for issues in forensic psychiatry that will not be addressed in this dissertation, such as the occurrence of incidents or the probability of relapse. The chapter will conclude with the implications of the results of this dissertation for the design of music therapeutic interventions and for the profession of music therapy in general.

The present, first chapter provides a theoretical introduction to the most important objects of study in this dissertation (“music,” and “music therapy”) as well as the research setting (“forensic psychiatry”) and their combination (“music therapy in forensic psychiatry”). Each section in this chapter will discuss a core assumption in the scientific literatures on these study objects.

1.2 Music

The first aspect of this dissertation is music. Music is one of the most commonly used and most popular forms of art through

which human beings express themselves. Music is played on the radio, iPods, CDs, mp-players—both privately and in public. Clifton (1983) defines 'music' as sequences of sounds and silences that the listener arranges into a meaningful form. These sequences of sound contain different musical parameters, such as: tempo, pulse, time, rhythm, dynamics, melody, harmony, texture, instrumentation or composition. The manner in which a musician and receiver arrange these sequences of sounds into a meaningful 'gestalt' is shaped by their own perceptions, their own actions with (or in) music, as well as the interaction between their actions and perceptions. Music is organized in a certain structure. Music with a predictable structure offers aesthetic satisfaction much faster than music that is less well-structured (Ehrenzweig, 1948; Berlyne, 1971). Music with an unpredictable structure demands the listener to put more effort in his cognitive functions (Gabrielsson, 2009). Music can be performed by applying instruments, computer, daily utensils, or one's body—including voice. In the latter case, music generally contains lyrics as well. Most of the popular music in our western society consists of songs: melodically presented lyrics with an accompaniment of different instruments (Ter Bogt, Delsing, Zalk, van, & Christenson, 2011; Ter Bogt, Mulder, Raaijmakers, & Gabhainn, 2011).

1.2.1 *Foundation of music*

Almost all human beings seem to be responsive to music although the level of their involvement differs (Ter Bogt, Mulder, et al., 2011). There are numerous articles and books on music and its functions (e.g., Ball, 2010; Clarke, 2011; Hallam, Cross, & Thaut, 2009; Juslin & Sloboda, 2010; Malloch & Trevarthen, 2010). Some of these books and articles scrutinize the functions of music in everyday life (Sloboda, 2010; Sloboda, Lamont, & Greasley, 2009); others address the evolutionary role of music (Cross, 2009). There are books and articles that focus on music psychology (Hallam et al., 2009) or the relation between music and emotions (Juslin & Sloboda, 2010). Some of the literature deals with the use of music for therapeutic means (Smeijsters, 2006; Wigram, Nygaard Pedersen, & Bonde, 2002). All these works discuss how, and why, music exists—and what the function of music can be in peoples' lives.

Why does music exist? What is the role of music for the existence of human beings? The evolutionary role of music is de-

bated in music psychology literature, but it appears that music constitutes a human necessity (Cross, 2009). Thaut (2005), for example, advocates music as an autonomous aesthetics: "that is fundamentally a biologically centered aesthetics of perception and cognition" (p. 35). There is not one single concluded reason why people would listen to music or enjoy music. Many explanatory theories about the existence or function of music are formulated. According to Merriam (1964; in Clayton, 2009) music has ten functions ("aesthetic enjoyment", "entertainment", "symbolic representation", "enforcing conformity to social roles", "physical response", "contribution to the continuity and stability of culture", "contribution to the integration of society", "validation of social institutions and religious rituals", "communication", and "emotional expression"). More recent Clayton (2009) classifies Merriam's functions into four categories: "regulation of emotions, cognition, or psychological well-being of a person", "intermediation between self and others", "symbolic representation", "coordination of actions". Saarkallio and Errkilä (2007) focus on the emotional functions of music that exist besides entertainment, such as: to distract from certain emotions, to discharge emotions, to enforce relaxation, to energize a person, or to offer solace.

Whatever the focus is, all authors seem to agree that music provokes sensations within us, some of these are strong most of them are mild. Music has a psychobiological power (Chanda & Levithin, 2013; Peretz, 2006), which seems to stimulate human beings to apply music in their daily life, for example, to cope with emotional situations (Ter Borgt, Mulder et al., 2011; Thaut, 2005). Research in music and physiological responses suggests that music can trigger measurable reactions in human beings (Chanda & Levithin, 2013; Hodges, 2011). Music has for example influence on heart rate (Guhn, Hamm, & Zentner, 2007; Khalfa, Roy, Rainville, Dalla Bella, & Peretz, 2008; Lundqvist, Carlsson, Hilmersson, & Juslin, 2009), blood pressure (Bernardi, Porta, & Sleight, 2006), immune response (S-IgA) (Beck, Cesario, Yousefi, & Enamoto, 2000; Enk, Franzke, Offermanns, Hohenadel, Boehlig, Nitsche, Kalda, Sack, & Koelsch, 2008; Kreutz, Bongard, Rohrman, Hodapp, & Grebe, 2004), and dopamine receptors (Blood & Zatorre, 2001, Brown, Martinez, & Parsons, 2004; Menon & Levithin, 2005). These influences could contribute to our perception that music can help us to convey, distinguish or perceive

inner motions (physical, cognitive, emotional, or psychological) and affect our daily life (Juslin, 2009). The core assumption on the functions of music in the theoretical literature of music psychology and music sociology is that music is generally composed, or played, to express emotions, to trigger cognitions, or to contain behaviors.

A prime example of music stirring emotion is love as expressed in many musical themes and songs. Romantic songs are composed and performed to generate specific moods or feelings. Music has a specific ability to help us express emotions and contain them at the same time. Music, as well as its lyrics, can express love in all its manifestations (e.g., longing for love, the sensuality of love, happiness triggered through love, despair of failing love, anger about terminated love). In songs one can play with the interaction between the music and its lyrics. Sometimes the lyrics are supported by the music (like the warm and calm music supporting the words “love me tender” by Elvis Presley). In the latter example, the music supports the underlying feelings. The music and its words express the same message: we call this “analogue.”

Music can contain and express diverse personal as well as social issues. Music can be used to convey sensitive issues in society. Society condemns or at least perceives the expression of emotions like rage or anger through expletives or aggressive behavior as negative—or even destructive (Lorber, 2004; Lowenstein, 2004). In music, anger, aggression or even violence can be expressed, without damage⁴ to society. Music can, indeed, shape and contain such emotions. For example, Benjamin Britten’s “War requiem” (1962) is a musical composition which expresses the violence and awe, the glory and defeat of the human kind under war circumstances. The requiem functions both as a warning and as an accusation. The music contains many indirect messages and symbolizes (un)articulated feelings, like rage, anger, hate, as well as hope. Like in Elvis Presley “love me tender”, the music, meaning, and words in Britten’s War Requiem are analogue.

Quite a large number of songs in popular music deal with violence, aggression and anger—as does Britten’s War Requiem. Sometimes these pop songs are written as a protest against violence in society. For example, “Killing in the name” of the band “Rage Against The Machine” is a protest song against ‘social (in)

justice.’ Likewise, “Stop the Violence” by the band “Boogie Down Productions” is composed as a protest song against violence between people. By contrast, song-texts exist that glorify anger and aggression, like gangsta-rap or skinhead music (for example “I’ll still kill” by the rapper “50 Cents”). In these songs the music supports the lyrics by expressing anger and aggression through its volume, tempo, rhythm, orchestration, ‘melody’, and harmony. Again, there is an analogy between the music and the lyrics.

In other songs the lyrics and music contrast, thus creating a friction and tension between their emotional and verbal content. An example is Leonard Bernstein’s “Auto-da-fé” from the opera *Candide* in which a cheerful music supports the hanging of the philosopher Pangloss. Another example is the song “Death on two legs” by Queen, in which a quite cheerful music supports Freddy Mercury’s purported curses and swears towards Queen’s ex-manager Norman Sheffield, who is reputed to have mistreated the band, abusing his role as manager (<http://en.wikipedia.org>). The discrepancy between music and lyrics in these songs creates a cynical undertone, emphasizing painful sensations. The discrepancy demonstrates how music is able to communicate at different levels at the same time—providing mixed dimensions of meaning and expressing emotions that can be quite different from the verbal content. Music can under certain circumstances help direct emotion-aroused behaviors into another direction. Music can have a containing power to help people experience and express feelings without acting them out in reality.

Besides the emotional part, music processed in the cognitive parts of the brain. Although still in an early stage cognitive science is more and more interested in understanding the cognitive function of music (Pearce & Rohrmeier, 2012). Music consists of musical listening, musical performance, and musical interaction. This involves a wide array of cognitive processes and functions, comprising attention, learning and memory, processing of forms of meaning, auditory scene analysis, streaming, recognition establishment of expectations, multimodal integration, syntactic processing, and social cognition (Pearce & Rohrmeier, 2012).

Recent research from neuroscience (e.g., Honing & Ploeger, 2012), shows that music is processed through cognitive actions (perception of sound, adjustment to a beat, distinction between intervals). Trehub and Hannon (2006) found distinct patterns of musical cognition such as temporal grouping processes and

⁴ Although listening for a long period to music with high volume might cause damage in the ear like tinnitus or hearing loss (www.oorcheck.nl).

holistic processing (were many parts of the brain work together) of auditory sequences in children and adults. Zatorre and Salimpoor (2013) found through fMRI that music triggered “cortical loops that enable predictions and expectancies to emerge from sound patterns and subcortical systems responsible for reward and valuation” (p.10430).

Thaut, Gardiner, Holmberg, Horwitz, Kent, Andrews, Donelan, and McIntosh (2009) found in their study on the influence of neurologic music therapy for people with brain injuries that cognitive functioning, improved especially executive functions like planning, organizing. Most results from research suggest these results as well (e.g., Bialystok, 2011; Hargreaves & Aksentijevic, 2011), although some dispute the executive function part (Schellenberg, 2011a&b). Neuro-imaging techniques suggest that “(t)here are shared cognitive and perceptual mechanisms and shared neural systems between musical cognition and parallel nonmusical cognitive functions that provide access for music to affect general nonmusical functions, such as memory, attention, and executive function” (Thaut, 2010, p. 281). The number of studies regarding the influence of music on the neurological system of people is slowly expanding. Pulse and rhythm of music—if systematically executed—stimulates specific parts in the brain (like the cerebellum, limbic system and brainstem). So, music seems to trigger emotional as well as cognitive functions. Dyck, Loughhead, Kellermann, Boers, Gur, Mathiak (2011) found in an fMRI research under thirty healthy volunteers that music seems to influence the intentional, cognitive mood regulation (left-lateral activity) and the less reflective processing, more automatic induction of mood through the right-side amygdale. This suggests that most of the brain functions are involved if people listen to music and even more so if they make music (Alluri, Toiviainen, Jääskeläinen, Glerean, Sams, & Brattico, 2012).

1.3 Music therapy

The second research object in this dissertation is music therapy. Music therapy is the profession that systematically applies music’s psychobiological and containing power to influence people (Hakvoort & Dijkstra 2012; Wigram et al, 2002). Although music can influence people it has no therapeutic value by itself. Horden (2000a) compiled a critical analysis of all claims for music to be used as a medicine or for health care stemming from

ancient traditions, through medieval times, until our early modern times. He studied, among others, old claims of “musical healing”. A popular story of musical healing is the Old Testament story of a depressed king Saul, who was able to sleep again and enjoy life after David played his harp. The musical distraction offered by David’s harp might have put King Saul’s mood at ease, just like you and me put on music in order to change our mood in daily life. Horden (2000b) concludes that David’s playing the harp is not music therapy. The reason is that in this example the music was not methodically applied to influence Saul’s depressiveness. Only since halfway last century, we have learned to apply music more systematically in a therapeutic way: in order to change problematic behavior and to influence people’s neurological, physiological, psychological, cognitive and emotional state. Only currently music as a systematic treatment modality has been shown to be effective for people with depression (Maratos, Gold, Wang, & Crawford, 2009).

1.3.1 A theoretical foundation for music therapy

For many years, and still, music as a treatment modality has been predominantly applied from a psychotherapeutic point of view. The psychotherapeutic approach to music therapy is as diverse as verbal psychotherapy. In the late 80’s Bruscia (1987) formulated, derived from the literature, 31 music therapy models that all apply musical improvisation as a main point of departure. Wigram et al. (2002) categorized all the different music therapy perspectives into eight main domains (“analytical oriented music therapy”, “guided imagery and music”, “creative music therapy”, “physiological responses to music”, “behavioral music therapy”, “music and healing”, “free improvisation therapy”, “music in medicine”). In addition, music therapy has a wide area of application (it is accessible for all ages, and applied to a wide variety of diagnoses and problems). Currently, the main treatment focus of music therapy is resource-oriented (stimulating patients’ strengths) and aimed to the well-being of the client.

Characteristic for each domain in music therapy, as categorized by Wigram et al. (2002), is that music has a specific emphasis. For example, in behavioral music therapy the music is applied as a reinforcer of positive behavior. It is characterized as *music in therapy* (Wigram et al., 2002). Alternatively, *music in medical treatment* is utilized to reduce pain (e.g., Bonde, 2001). The

distracting and relaxing nature of music can be used to reduce the amount of medication necessary for pain reduction during medical procedures (Standley, 1996). Thus, music is used not as a primary method, but only because of its (limited) utility to reduce existing pain levels (Cepeda, Carr, Lau, & Alvarez, 2006). For both domains music is an instrument to attain goals at a behavioral level.

In analytically oriented music therapy, such as cognitive analytic music therapy (e.g., Compton Dickinson, 2010), music serves as a projective mirror. A client is invited to project his⁵ feelings, ideas, and insights onto the music while listening or improvising. Together with the music therapist the client verbally explores the origins of his thoughts, his feelings and even his mere existence. In creative music therapy, established by Nordoff and Robbins (1977), a music-centered philosophy is propagated. Music is conceived to be an inner resource of each human being. Through improvisation methods, the inner 'musical child' has to be brought about by the therapist. The creative development of the 'musical child' is assumed to automatically transfer to the general well-being of the client in daily life.

The music-centered music therapy (Aigen, 2005) highlights a more holistic philosophy. Music is conceived to be a metaphor for the outer-musical existence of people in everyday life. In this approach the clinical goals resemble foremost musical goals. Each development in the music, as well as in the musical relationship between therapist and client, is assumed to cause a similar development in the client's outer musical existence. That music serves as a metaphor, as an analogy, or as a parallel, to outer musical (psychological) structures is an often-applied assumption within music therapy (e.g., Aigen, 2005; Smeijsters, 2005). Smeijsters (1992, 2005) made this assumption explicit in what he called the 'theory of analogy'. The core assumption of analogy in music therapy states that (musical) reactions of a client to (musical) situations resemble outer-musical and psychological reactions of that client.

Unrelated to the psychotherapeutic background, most music therapists will implicitly or explicitly claim that a congruency exists between musical and psychological engagements. Most music therapists explicate to their clients the assumption of analogy and offer it as an effective mechanism in their music therapy. Many case studies and other qualitative studies support the theory of

analogy. However, quantitative evidence does not exist: hardly any researcher has examined this mechanism in a quantitative research design. In addition, the theory of analogy may not always hold: earlier in this chapter, it was discussed that music often contains contrasts as well. Hence, it could be quite likely that the musical and outer-musical structures do not correspond. Therefore, the theoretical assumptions that underlie the theory of analogy should be examined in depth before jumping into too rapid conclusions about this theoretical foundation for music therapy treatment.

1.3.2 Limitations to music therapy research

One of the major limitations of current music therapy research is that quantitative, well-designed (experimental) studies on effectiveness are very rare. In the modern health-care system, a profession has hardly any legitimized existence without a sound body of scientific evidence. The call for evidence-based practice means that a body of well-constructed research supports the effect of a specific treatment for a specific population under specific circumstances. Hence, building evidence-based practice is quite essential for the survival of music therapy. However, currently there is only a small (although accumulating) body of studies into the influence of music therapy. Some clinical researches show that music can effectively be implemented in the treatment for people with acquired brain damage. There are promising prospects for the use of music therapy for people who suffer from neurological impairments, such as: Parkinson (Thaut & Abiru, 2010), Aphasia (Fridriksson, Hubbard, Hudspeth, Holland, Bonilha, Fromm, & Rorden, 2012), Multiple Scleroses (McIntosh, Peterson, & Thaut, 2006), or sensorimotor impairment (Molinari, Leggio, Filippini, Cioia, Cerasa, & Thaut, 2005).

Most of the studies in music therapy that can report a positive effect follow a (cognitive) behavioral approach. The results of different studies are compared and analyzed in order to generalize the sizes and significance of effects of music therapy. The so-called Cochrane reviews report treatment effects for specific diagnoses or client populations. By now there are Cochrane reviews on music therapy for people suffering from schizophrenia (Mössler, Chen, Heldal, & Gold, 2011), children with autistic spectrum disorder (Gold, Wigram, & Elephant, 2006), clients suffering from depression (Maratos et al., 2008), psychotic clients (Gold, Heldal,

⁵ Because 94% of forensic psychiatric patients are male (Van Gemmert & Van Schijndel, 2011), the masculine form is used throughout this dissertation for forensic psychiatric patients. Whenever 'he/his' is written, one can fill in 'she/her' as well.

Dahle, & Wigram, 2005), elderly suffering from dementia (Vink, Birks, Bruinsma, & Scholten, 2003), and people with brain injury (Bradt, Magee, Dileo, Wheeler, & McGilloway, 2007). Cochrane reviews are also established to report about the effect of music to improve psychological and physical well-being of cancer-patients (Dileo, Bradt, Grocke, & Magill, 2008), as well as for the provision of end-of-life care (Bradt & Dileo, 2010). However most of these reviews are inconclusive, specifically because the sample size tends to be too small.

Besides the problems of small sample sizes, one of the other limitations in effect studies of music therapy is that the treatment goals are not always formulated explicitly, or tend to focus on broad issues such as 'quality of life' or well-being of a client. Another limitation, like the theory of analogy, is that the explanatory mechanisms that are assumed to drive the effects of music therapy are often not explicated or founded in scientific evidence. Due to the tension between very general concepts of "well-being" of a client and the very specific demands of applying a rigorous research design (Van Hooren, 2013) there is currently a lack of well-crafted effect studies in music therapy. Consequently, the results of clinical research are often inconclusive when it comes to the effectiveness of music therapy.

We have discussed that the most common assumption underlying the use of music therapy as a treatment modality is provided by the theory of analogy. The discussion of that literature, however, showed that the explanatory mechanisms that underlie the parallel between inner-musical behavior and outer-musical behavior of people are quite under-studied. The evidence of individual studies as reported in the Cochrane reviews, suggests that music therapy is most effective if it is systematically applied from a cognitive-behavioral perspective. Due to the fact that the current scientific evidence for the mechanisms and effects of music therapy is limited, we should take a closer look into studies from other fields of research that are relevant to music therapy, such as neuroscience, or from specific settings, such as forensic psychiatry.

Insights from emerging scientific fields, such as neurology suggest more and more that music can be effectively applied in therapy—and offer as well an explanation for this effectiveness (Lin, Yang, Lai, Su, Yeh, Huang, & Chen, 2011; Thaut, 2005; Thaut, Nickel, & Hömberg, 2004). If implemented therapeutically and

systematically, music can influence neurological processes of human beings. As Thaut states: "The understanding of music's role and function in therapy and medicine is undergoing a rapid transformation, based on neurological research showing the reciprocal relationship between studying the neurobiological foundations of music in the brain and how musical behavior through learning and experience, changes brain and behavior functions. Through this research, the theory and clinical practice of music therapy is changing more and more from a social science model, based on cultural roles and general well-being concepts, to a neuroscience-guided model based on brain function and music perception." (2006, p. 303).

Research results of Blood and Zatorre, (2001), Esch and Stefano (2004) and Nistri Ostroumov, Sharifullina, and Taccola (2006) demonstrated neurological pathways that could be applicable in the music therapy treatment for people who suffer from addiction problems. Possible explanations for these effects are that music stimulates brain processes that influence the production of specific endorphins in receptors (DRD2); a process that is severely impaired and damaged by for example the long-term use of psychedelic substances (Feltenstein & See, 2008; Stansfield & Kirstein, 2005). However, music therapy research in this clinical field is, as yet, missing here.

1.4 Forensic psychiatry

The setting to conduct the research of this dissertation is forensic psychiatry. The evidence-based literature on forensic psychiatry offers an additional stream of research that could inform us why, and how, music can be effectively used in a therapeutic way within this specific setting. Research in forensic psychiatry is important because it may further add to our knowledge about the possible function of music therapy provided by the theory of analogy and the neurologic approach.

Forensic psychiatry is psychiatric care for offenders with psychiatric or psychological disorders (Van Marle, 2002). These offenders are called forensic psychiatric patients because they suffer from psychiatric, psychological and/or behavioral disorders and, in addition, have to deal with legal issues (American Academy of Psychiatry and the Law, 2005). Forensic psychiatric patients are placed under a code of law and enforced to mandatory hospitalization (Gutheil, 2004). The main goal of their impris-

onment is to prevent society from 'dangerous' individuals. The main goal of the hospitalization is to treat forensic psychiatric patient for minimizing their probability of relapse into (violent) crime (Douglas Broers, 2006). The treatment of forensic psychiatric patients focuses on the prevention of relapse, recidivism or re-offense. Due to the dual condition of imprisonment and hospitalization, combined with the specific treatment goals, forensic psychiatric patients require a special therapeutic attitude and a specific therapeutic approach.

1.4.1 An evidence-based foundation for forensic psychiatry: the RNR model

In forensic psychiatry, the treatment of patients is guided by evidence-based knowledge. In the mid-1970s the belief was advocated that therapeutic treatment would not work for forensic psychiatric patients (Martinson, 1974; Lipton, Martinson, & Wilks, 1975). This belief provoked a counter-reaction. People who worked in forensic psychiatry and the field of offender treatment started to closely study specific interventions. More and more (tiny) pieces of evidence mounted in what we now call the "what works" principles for the treatment of forensic psychiatric patients and offenders (Dowden & Andrews, 2000; Ward, Melser, & Yates, 2007). The "what works" principle provides three clear indicators that help to predict the probability of recidivism by forensic psychiatric patients: (1) *risk* principles, (2) *need* principles, and (3) *responsivity* principles (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1990). The application of the various factors for the three principles culminated in a shift of the field of forensic psychiatry towards a much more exact description of the risks, needs, and responsivity of forensic patients in their treatment, and in their functioning in society as a whole (Bonta & Andrews, 2007). All principles are geared to preventing recidivism or a relapse into violent crimes.

According to various meta-analyses the best results in relapse prevention can be obtained by a thorough assessment of factors that contribute to the risk principles of forensic psychiatric patients, an elaboration of their needs, and by tapping into the responsivity of forensic psychiatric patients (Bonta & Andrews, 2007). Combined, these principles constitute the "RNR" model. In the first place, *risk principles* of forensic psychiatric patients are those factors that have the potential to inflict recidivism, such as: history of criminal behavior, anti-social behavior. Dynamic risk factors pertain to criminogenic needs (Andrews et al. 2011), such as substance abuse,

and maladapted coping skills. These dynamic risk factors should be altered to minimize relapse chances. In the second place, *need principles* are the assets a forensic psychiatric patient has, or needs to acquire, to protect him against delinquent behavior. Such assets are: behavior management, positive coping skills, or social relations. Research in forensic psychiatry and offender treatment suggests that patients' need can be expanded most effectively through cognitive behavioral therapy (Landenberg & Lipsey, 2005; Ost, 2008). In the third place, *responsivity principles* are characteristics that make a forensic psychiatric patient responsive to the treatment offered to him. *Responsivity includes* the patient's motivation, his learning style, resources or strengths to continue his development—even if the treatment is confronting to the patient or the treatment commands a major behavioral shift of the forensic psychiatric patient.

1.4.2 The good lives model

A strict therapeutic focus on a patient's risks, needs and responsivity (RNR) could have the potential to narrow down the focus of therapy to the specific criminogenic needs of the patient. Paradoxically, this narrow focus may at the same time reduce the forensic psychiatric patient's ability to function well in society. Ward and Stewart (2003) warned that when the treatment predominantly focuses on reducing the anti-social behavior of a patient, this patient may lose important parts of his identity, as a criminal and as an offender. A patient might function much better after release if his *human needs* are improved as well. Important human needs include self-esteem or positive values. Treatment is assumed to be more effective if also human needs are met. Ward et al., (2007) formulate this assumption as "good lives model" (GLM). They state, "(...) the concept of psychological well-being (i.e., obtaining a good life) should play a major role in determining the form and content of rehabilitation programs, alongside that of risk management. Thus, a treatment plan needs to incorporate various primary goods (e.g., relatedness, health, autonomy, creativity, and knowledge) and aim to provide the internal and external conditions necessary to secure these goods" (Ward et al., 2007, p. 90-91). However, scholars who focus on the RNR model (Andrews, Bonta, & Wormith, 2011) conclude in a recent article that the attainment of human needs, as proposed by the GLM model, did not affect the relapse chances of forensic psychiatric

patients in addition to the factors specified by the RNR model. From a normative point of view, however, one could maintain that the fulfillment of human needs—such as well-being of forensic psychiatric patients—is recognized as a fundamental human right (e.g. United Nations Declaration of Human Rights, 1948). Therefore, aspects of the “good lives model” are currently integrated in the expanded RNR model, but only as secondary goals.

In conclusion, we can safely assume that—as a result of the evidence-based practice in forensic psychiatry—any treatment offered in this setting should meet the standards of an expanded risk-need-responsivity (RNR) model in order to minimize relapse chances. The empirical evidence in this field suggests that forensic psychiatric patients too can benefit most positively from a cognitive behavioral treatment (Landenberg & Lipsey, 2005; Ost, 2008). Therefore, effective treatment modalities in forensic psychiatry should assess possible risk factors, address need factors, and aim to alter criminogenic needs. The most effective manner to influence the risk en need principles is to closely relate these principles and the therapeutic intervention to the specific responsibility of the forensic psychiatric patient.

1.5 Music therapy in forensic psychiatry

1.5.1 A theoretical foundation for music therapy in forensic psychiatry

This section discusses the application of music and music therapy (the research objects in this dissertation) in the specific research setting of forensic psychiatry. Most music therapist in forensic psychiatry work from a cognitive-behavioral approach (Coddling, 2002). Yet, in a recently published book ‘forensic music therapy’ is presented as a cognitive-analytic treatment (a theory closely related to the psycho-analytical approach) (Compton Dickinson, Odell-Miller, & Adlam, 2012). From this perspective, the analogy between musical improvisation and daily life is applied in order to improve patients’ behavior by gaining insight in their musical behavior. The cognitive-analytic perspective is presented as reflecting a basic foundation of music therapy in forensic psychiatry within the United Kingdom. From this perspective, forensic music therapy, music is therapeutically applied as a mean to learn patients to communicate (Hughes & Cormac, 2012), to develop new meaning and purpose to life (Maguire & Merrick, 2012), to improve their overall psychological develop-

ment (Compton Dickinson & Gahir, 2012), to support loss and mourning (Roberts, 2012), and to bring traumatic memories to their consciousness in order to suppress “split self-states” (Compton Dickinson, 2012). Most of these goals are not common treatment goals in forensic psychiatry outside the United Kingdom.

In a recent version of a Cochrane protocol on music therapy in the field of offender treatment, Chen, Leith, Aarø, Manger, and Gold (in review), identify the improvement in the health and well-being of forensic psychiatric patients as the most often defined goals for music therapy treatment in this setting. On the moment, a number of researches on music therapy with offenders are initiated or even completed. Gold, Assmus, Hjørnevik, Gunnhild Qvale, Kirkwood Brown, Lill Hansen, Waage, & Stige (2013) found positive influence of music therapy on mental well-being of prisoners.

Yet, as discussed above, well-being is according to evidence based practice in forensic psychiatry a secondary goal. When music therapy in forensic psychiatry would mainly focus on the well-being of patients this would place the profession in a secondary position. The choice for a secondary goal as the main treatment focus will not offer a solid fundament for music therapy in forensic psychiatry. In the first place, music therapy may very well have the potential to contribute to the attainment of relapse prevention. In the second place, the assignment of well-being as the primary goal for music therapy might stir controversy in society. Recently, a very notorious pedophile on trial told a Dutch court of justice that he received music therapy in order to keep him ‘sane’. This statement provoked extreme commotion under his victims, their relatives and society. The pursuit of well-being of (forensic) offenders is not perceived as a first priority by society (de Volkskrant, 2013-3-14).

1.5.2. Towards an evidence-based foundation for music therapy in forensic psychiatry

Only few scholars have studied the role of music (therapy) in forensic psychiatry in-depth. This is probably partly due to the difficulty of doing clinical research in forensic psychiatry in general. According to Watt and Howells (1999) the difficulty of doing research in forensic psychiatry has several reasons: patients are often poorly motivated; the content of the treatment programs

are too complex and lack program integrity; and patients have too few opportunities to practice the newly acquired skills. In addition to these difficulties, only few music therapists work in forensic psychiatry. In the Netherlands, for example, there are about 20 music therapists working in forensic psychiatry for 2150 forensic psychiatric patients in 2010 (Van Gemmert & van Schijndel, 2011). Almost all music therapist work part-time, have only be trained on a bachelor level and lack elaborate research skills. Hence, the potential for doing quantitative and qualitative research in music therapy within adult forensic psychiatry is very limited.

In the late 1980s and during the 1990s a small body of research articles appeared with a focus on music therapy with forensic psychiatric patients (Drieschner, 1997; Hoskyns, 1995; Loth, 1994; Thaut, 1989a, 1989b, 1992). It took more than 15 years before studies in this field were published again (with one notable exception in 2001, when Daveson and Edwards (2001) published a small descriptive study on music therapy with female prisoners). Very recently, research into music therapy conducted with adult forensic psychiatric patients or offenders flares again.

In 2008, Gold et al., (2013) started a study into the influence of music therapy on anxiety, depression and social interaction in a Norway prison. Due to the very limited average incarceration period of the subjects the length of imprisonment was very short in the Norwegian study. Results of the study show that anxiety tended to drop significant for the music therapy condition, but only measurements over a 2-week period were available. Chen et al., (2013) are now working on an RCT replication of the Norwegian study in China to study the effect of music therapy on levels of anxiety and depression in prisoners.

1.5.3 Cognitive-behavioral approach

So what could be the potential of music therapy to contribute to the primary goals in the treatment of forensic offenders? Music seems to tap into the responsivity of many forensic psychiatric patients. Tuastad and O'Grady (2013) found that music offers offenders a moment of freedom. It appeals to freedom of thought, feeling free and can help to divert negative emotions (Saarikallio & Erkkilä, 2007).

In the Cochrane protocol on music therapy and offenders, Chen et al., (in review) present the theory of analogy as one of the explanatory theories for music therapy's effectiveness. Because

forensic psychiatric patients tend to show similar behavior during music therapy and in daily life, changes in their musical reactions imply changes in their outer-musical reactions. However, this theory is not well researched. In forensic psychiatry the risk-need-responsivity model is followed as the theoretical foundation for treatment. Specifically the cognitive behavioral approach offers the best evidence for this population (Landenberg & Lipsey, 2005; Ost, 2008).

Most music therapists report in their treatment programs that need factors of their patients (Bonta & Andrews, 2007) are the primary treatment goals for referral. Hoskyns (1995) and Watson (2002) report how to build self-management skills of forensic psychiatric patients through music therapy. Wyatt (2002) and Rickson and Watkins (2003) focus their music therapy treatment on the problem-solving skills of patients, while Crimmins (2010), Fulford (2002), and Hakvoort (2002a) report about reducing aggression, or improving anger-management, as their predominant treatment goals. Dijkstra and Hakvoort (2006), Hakvoort (2007a, 2007b) and Reed, 2002 describe how music therapy can be applied to improve the coping skills of forensic psychiatric patients. Some music therapy programs pay specific attention to promote alternative behaviors to drug abuse (Dijkstra & Hakvoort, 2010; Gallager & Steel, 2002; Silverman, 2003, 2010). All the reported programs are specifically designed to meet the need principles of offenders and / or forensic psychiatric patients.

Most music therapists working in forensic psychiatry, indeed, apply a cognitive-behavioral approach (Coddington, 2002), following suggestions from evidence-based practice in forensic psychiatry. From a behavioral approach music is applied as 'reinforcer' and training situation for new, appropriate behavior (need principles). The music therapists systematically employ the musical situation to match the abilities and limitations of the patients. Emotions are provoked and behavioral reactions monitored and guided into the appropriate direction.

The music is also applied cognitive, as motivator to persist practicing difficult skills that need to be mastered. Music therapists trigger the cognitive processes of the forensic psychiatric patients by actively making music with them. They musically stimulate establishment of expectations through musical shaping (like the rap at the beginning of this article), recognition, attention, learning and memory, streaming (through rehearsal

and repetition, first musical, than outer-musical), multimodal integration, syntactic processing, and social cognition (Pearce & Rohrmeier, 2012). They stimulate and practice through musical assignments the cognitive functions of the forensic patients, such as improving coping skills, problem solving, and elaborating executive functions like planning and organizing.

We assume from the music therapy programs established in forensic psychiatry that music therapy builds on a cognitive and behavioral perspective. The main treatment goals of music therapy focus on primary and secondary treatment goals for forensic psychiatric patients. Because music is appealing to many people, music therapy may tap specifically into the responsivity of forensic psychiatric patients, in addition to the other principles specified by the risk-need-responsivity model of forensic psychiatric treatment.

The discussion of the literature above makes it possible to draw a preliminary theoretical framework that serves to guide the studies of (possible mechanisms and influence of) music therapy in forensic psychiatric settings. We have suggested that music has a containing power to help people experience and express feelings without acting them out. People, willingly or unwillingly, do respond to music. We have also assumed that music therapy is most effective when evidence-based and systematically applied from a cognitive behavioral perspective. Finally, any effective treatment modality in forensic psychiatry should assess risk factors, address need principles and change criminogenic needs of forensic psychiatric patients. The risk and need principles of forensic psychiatric patients are most effectively addressed when they are related to the patient's specific responsivity towards music. In the following chapters the topics shortly addressed in this introduction will be discussed and scrutinized in more details.

Chapter 2

Making offence related behavior observable: music therapy as an assessment tool for forensic psychiatric patients

Abstract

This chapter describes an observation program in music therapy for forensic patients. The author has worked with over 450 forensic psychiatric patients in observation during ten years. She uses her experience to discuss the assessment of offence related behavior within music therapy. The program focuses on three manners of functioning of forensic psychiatric patients to which music therapy can contribute: offence related behavior (risk principles), coping-skills and conduct skills (need factors).

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Making offence related behavior observable: music therapy as an assessment tool for forensic psychiatric patients¹

¹ The author wants to acknowledge especially Clare Macfarlane for her remarks on the English translation.

The aim of this chapter is to demonstrate the suitability of a music therapy observation program for the assessment of forensic patients. Essential to this population is their disturbed conduct behavior. A distinctive phenomenon of music therapy is its possibility to explore a patient's overt reactions toward certain situations; a possibility over which verbal therapy has less control. The music therapy observation program is based on my experience with over 450 forensic psychiatric patients. It is designed for forensic psychiatric patients, but I expect that it is applicable for all clients with behavior disorders, who suffer from outbursts of extreme behavior, or lack insight, due to its focus on observable and verifiable behavior.

2.1 Forensic psychiatric assessment

The Oostvaardersclinic's (a forensic psychiatric hospital in the Netherlands) most important expertise was observation, assessment, and defining indication criteria for treatment of forensic psychiatric patients, due to its history as a selection clinic. Through many years of expertise in observation and advice a major caseload was collected.

A multi-disciplinary treatment team observes the patients. These teams comprise a senior psychologist, psychiatrist, social worker, music therapist, vocational counselor and group-workers or sociotherapists. A close deliberation within the multi-modal team and a carefully articulated assessment strategy from the senior psychologist, obtained by means of thorough dossier analysis, is a prerequisite to investigate the functioning of patients. Each member of the multi-modal treatment team adds his expertise to the 'Forensic Psychiatric Profiling', (Brand & Van Emmerik, 2001) i.e. a bio-psycho-social-emotional and risk assessment profile, which is filled out for each forensic patient. This assessment profile (FP40) was developed by a research team from the clinic and further validated in forensic psychiatry in The Netherlands. The profiles are tailored to the problems, risks and characteristics of the forensic psychiatric population. About 40 scales are created to measure the different characteristics (Brand & Emmerik, 2001).

Psychologists reflect on the cognitive behavior of patients and

try to influence the cognitions and emotions that are linked to the offence(s). Psychiatrists test the mental, hormonal, chemical reactions in a patient's body and try to establish behavioral change by the prescription of medical drugs. Group-workers offer information about behavior in a patient's living environment in the unit.

Music therapists can assess limitations and explore capabilities of a forensic psychiatric patient (Hoskyns, 1995). In the Oostvaardersclinic the center of attention is the analogy between musical behavior and missing competencies (cognitive, behavioral, social and emotional) (Smeijsters, 2005).

Patient H. is almost seven feet tall (over two meters), weighs more than 300 pounds (around 140 kilos). He speaks with a very loud and commanding voice. He has pumped-up muscles from body-building and if he hits the congas with just two fingers it sounds like fortissimo. He tells me how strange it is that people are not honest with him or seem to run away if he passes by. After carefully building a work-relation during music therapy, I confront him with the way he speaks and the impact that this has on me. I confront him by making audio recordings and sometimes I imitate him.

The focus of forensic psychiatric observation is on offence related behavior, because each ultimate treatment goal is to protect society by minimizing relapse chances. Treatment in forensic psychiatry focuses on the so-called Risk-Need-Responsivity (RNR) principles (Bonta & Andrews, 2007). This means that not all observed behavior receives attention during treatment. Many forensic psychiatric patients have a number of problems and distinct behaviors. They can't be cured of their personality disorders, nor can all their problems be solved. Treatment aims for minimizing offence related behavior (risk) by developing new skills (needs). The patient has to work on eliminating the risk of relapse into violent crime. During the whole observation period, the (music) therapist has to consider which behavior could have had influence on the offence and which behavior is of secondary nature.

If patient E. plays an instrument, the music sounds rigid and each of his movements seems to be dominated by fear of losing control. He is unaware of his disturbed tension/stress regu-

lation, which is both audible and visible. While improvising he loses touch with other people because he searches for his own harmony and rest and does not register boundaries of others (like closures, irritation or boredom).

Because his sexual offences occurred presumably by a too high testosterone level, malfunctioning stress regulation and inability to signal other people's boundaries, music therapy treatment will focus on the latter two. His yearning for harmony and rest won't get any extra attention, because they cannot be traced back directly to circumstances that characterized the offences.

2.2 Organization of the music therapy observation program

During observation I always relate to the interests and capacities of a patient (responsivity). By being unassuming and creating moments of success I carefully build a (short-term) work-relation. I assess which instruments, activities, or (musical) shaping allows the patient to work the most intense. The most important part in this assessment is keeping an optimal balance between exploring a patient's (pathological) behavior (which can be quite confronting) and to keep him motivated to participate. This requires flexibility, mitigation, giving trust and humor from me. The music therapy observation program consists of the following phases:

1. Getting acquainted, explanation of music therapy and the observation process, establishing a work-relation
2. Elaboration of a work-relation, (shallow) exploration of common behavior
3. Musical assessment of common (pathological) behavior and related feelings
4. Musical assessment of offence related (pathological) behavior and feelings (this is an individual session)
5. Exploring treatment possibilities and impact
6. Concluding observation program; discussing the assessment- and observation-rapport with the patient (to seek an agreement for future treatment goals and objectives; conceal explored behavior and feelings if the patients will not continue with the music therapy program) (this is an individual session)

2.3 The scope of the music therapy assessment

During the music therapy observation I assess *three manners of functioning* of a patient:

Table 2.1. Range of music therapy observation in forensic psychiatry

Range of music therapy observation	Fields of assessment		
	A. Musical behavior	B. Social-emotional behavior	C. Common behavior
Manners of functioning:			
1. Offence related behavior			
2. Coping skills			
3. Conduct skills			

1. *Offence related behaviors* are those responses during the therapy that show similar or analogue patterns with the assumed behavior leading up to the offence (the risk or criminogenic factors according to Bonta & Andrews, 2007).
2. *Coping skills* are those patterns in acting and mental representation that help a patient deal with difficulties, solving problems or handle inconvenient events. This shows his adjustability to a situation that demands shifting.
3. *Conduct skills* are the skills patients use while relating and interacting with other people or react on circumstances (both need factors according to Bonta & Andrews, 2007).

The three manners of functioning become apparent in created (and manipulated) circumstances during music therapy. I score this functioning on three assessment fields of forensic psychiatric patients in the music therapy observation program. I look for analogies between overt behavior during music therapy and behavior in daily life. These assessment fields are:

- A. Musical behavior
- B. Social-emotional behavior
- C. Common behavior

The manners of functioning within the assessment fields determine the range of music therapy observation within forensic psychiatry. It also defines the role of music therapy within the multi-modal fields of forensic assessment. Table 2.1 provides an overview.

2.3.A. *Musical behavior*

When I examine the field of musical behavior I mainly focus on how the forensic patient works and acts musically: how he handles instruments, assignments, his working methods (the use of tempi, rhythm, melody, harmony, shaping, dynamic, musicality), etcetera. This is observable behavior that occurs within and through music. The patient responds in his own, unique way to music. I try to distinguish analogies with offence related behavior, coping skills and conduct skills. I register the behavior, but only make an interpretation of the behavior in a later phase.

2.3.B. *Social-emotional behavior*

When I assess the field of social-emotional behavior I especially pay attention to a patient's reactions to the establishment of the therapeutic alliance and relation with other group-members. How

does the patient approach me? What kind of verbal, musical, behavioral, and emotional interaction does he establish with his group-members or with me, as a music therapist, and a woman? What kind of expression do I hear or observe within the (musical) interaction?

The active behavior in interaction is especially important, for all forensic psychiatric patients are offenders and have caused victims. I establish whether there is any empathy present; whether the patient has any insight in the way he relates to other people; whether he has any clue of the influence he has on other people, as well as other people on him, and the impression he makes on people. In addition a carefully and well-assessed work-relation can ascertain my own safety. Again I look for the three manners of functioning and consider the possible offence related behavior, coping skills and conduct skills in:

- *Interaction with the therapist:* Does the patient imitate, follow my music, or initiate his own (as well)? Is the patient friendly, hostile, or indifferent? Is he able to listen to instructions, or to the music? Is he musically dominant or feeble?
- *Emotional balance:* Does the patient expose any sudden behaviors or emotional expressions? Is he impulsive, restricted, theatrical, or self-centered? Is their congruency between the expressed emotions and the perceived ones?

2.3.C. Common behavior

In order to assess common behavior I observe the patient's possibilities, limitations or problematic behavior that emerges while making music. I also take the patient's motivation for therapy into account, because motivation has major influences on the patient's functioning (the higher the responsivity (including motivation, learning style) of a patient, the more likely he will finish a complete treatment program). For me the field of common behavior includes human needs:

- *Protecting competencies:* qualities that guarantee healthy functioning of a patient and defend him from harm in a proper manner.
- *Self-esteem and self-concept:* ego-strength, self-reliance or self-confidence a patient has when performing an action.
- *Concentration proficiency:* besides the length of concentration, I observe the intensity and span of the concentration.
- *Reflective abilities:* the awareness of a patient of what he does

and what impression he makes; and the amount of insight he demonstrates

- *Structural and shaping capacities:* What arrangement does a patient need to make music? Can he experiment? How do his improvisations sound? What musical forms are audible? Does he need extra support to improvise, what kind of help? Does he or his music get entangled, chaotic or confused? Does he use examples, if so, which ones? How steady does a patient's music sound or does he react?

Patient G. has just been hospitalized after serving his sentence. He is angry due to the fact that he is placed under the Dutch Entrustment Act (van Marle, 2002) and declines any participation. Only for 'music' (he refuses to call it music therapy) does he make an exception, because he loves to play the guitar. I suggest playing together. At his request I sing 'Stairway to heaven (Led Zeppelin)', while he accompanies me with the electric guitar. Immediately it stands out that he is playing so loud, that my singing is not audible, despite the microphone. I respond by telling him that I can hardly hear myself and fear that I might not sing in-tune, nor imbed the right emotion. His only reaction is that I should sing louder or turn up the volume. I reply that his tone sounds to me like: "solve that one for yourself, this is your problem", although we agreed to play *together*. He acknowledges this. Because he accepts my remark I continue. I create the first link with his offence of partner battering. He laughs caught out and his only reply is: "You keep on being a music *therapist*."

2.4 Methodological concepts of music therapy observation

I define assessment as all those specific assignments and activities during music therapy that I use to gather valid information about a patient's pathology and personal strengths. My experience with forensic patients in the program has shown three important methodological concepts for an assessment within music therapy (Hakvoort, 2002b)

1. The importance of overt and active behavior.
2. Provoking habitual versus situational behavior.
3. The use of scientific methods.

These concepts fit a behavioral approach that is hardly described in Dutch (or European) music therapy literature (for forensic nor general psychiatry).

2.4.1 *The importance of overt and active behavior*

Forensic patients are convicted for their offence: active, overt behavior. Behavior is all acts, actions, activities, responses, reactions, movements, and processes that can be observed in a person's body positioning, action, improvisation, facial expression, and movement (compare Reber 1985). Overt, expressed behavior is very important for this population, because in this expressed behavior a victim (or passer-by) experienced the threat of the offender. Assessment and treatment of this behavior is essential to minimize offence-risk, especially while 'acting' behavior is clearly observable (compare Smeijsters, 2004).

During music therapy this 'acting' can be systematically provoked. A qualified music therapist can create distinct situations, in which a patient expresses himself, among others, in his active behavior: in his handling of songs, instruments, relationships, emotions, situations, and etcetera. I create for example a situation of powerlessness, by proposing an assignment that is hardly possible to perform for a patient. Then I observe which manners of functioning a patient demonstrates.

I observe what is visible and audible in his improvisations, in the process of making music, in the facial expression, posture, muscle-tone, sweating, and other behavior or gestures of a patient. I watch for unattended tempo changes, for example due to agitation, because of a difficult assignment. I listen to pulse structures when a patient has to continue his own beat when I am trying to disturb it e.g. by playing counter beats. I observe reactions when a patient is left with only ten keys of the piano and see what his reaction is in the next improvisation. If possible I discuss these moments with a patient, because it can help him to cognitively grasp what has happened.

During observation I assess overt behavior and expressions, and am not interested in psychological or symbolic interpretations of musical performance. In the short period of observation a number of patients are well equipped to manipulate emotional sound material. For this reason, I never start with symbolic themes or cognition, or ask a patient to express his emotions musically. While making music or improvising, I watch what kinds of emotions show up in a patient's posture, facial expression, muscle-tone, and the like. Therein I observe tension, relaxation, pleasure, joy, boredom, uncertainty, anxiety, somberness, sadness, irritation, anger or aggression. Additionally, I observe any

congruency between the patient's encounter of the situation, the music and his body language.

Patient A., convicted for first-degree murder, comes to music therapy for the first time. He walks in and immediately spots the drum-set. When asked which instrument he would like to start with, he chooses to play the drum-set. He adds that he will prove to me that he has a real musical ear. However, when he sits behind this massive instrument, he does not make any sound and two movements he starts are interrupted, before they come in touch with the drum.

He looks around. I see how his jaw muscles tense. Then he shortly taps the snare-drum and says: "That membrane is bad, it sounds like nothing. You must play the drum set, so you can hear! You are the music person, aren't you?" He rises abruptly and forces the drumsticks into my hands. I play a simple beat that I expect he will be able to learn within the hour. I alternate between the beat and some more complex fills to prevent conceited remarks. While drumming I observe his reactions.

2.4.2 *Habitual versus situational behavior*

A situation determines manners of functioning. During music therapy I examine which of these manners are habitual and which situational. People react to or confront new (unfamiliar) situations with their knowledge and experience of former, similar situations. This knowledge and experience lead to habitual behavior; the basic behavior they are most familiar with (Piaget, 1969). This behavior is reinforced by the situation at hand. Some situations are so specific, that they provoke specific reactions, even for this person. If this behavior occurs, it is defined as situational behavior. Situational behavior is difficult to influence, because it is only expressed under very specific circumstances (like the offence).

My assumption is that each behavior occurring during music therapy is situational, until I can prove otherwise. Therefore I have to bring patients into different (musical) situations. In the assessment situational behavior is scored as habitual if it occurs in at least three analogue but different situations (e.g. while playing the piano, the drum-set and in discussion).

During a turn-taking improvisation patient C. plays the lyre, while I play the knee-harp. There is no musical contrast audible in C.'s improvisation (no sudden high or low notes, no dynamic changes, and no rhythmic syncope). Because this is our first meeting I cannot determine whether C. avoids vehemence or violence, is rigid or does not dare to show any emotions.

A lyre sounds very soft by nature. So I add assignments to enlarge the dynamic range. I ask C. to play simultaneous with me. One plays a bourdon, while the other improvises a melody and vice versa. Again he chooses the lyre. There are still few contrasts audible, so I apply a number of elicitation techniques (Bruscia, 1987). I play more dynamic variations on the knee-harp (when playing the bourdon as well as melody), I make rhythmical space, search for contrasts and try modeling while I play melodies. Nothing seems to work. There is no audible reaction from the lyre, but C. shakes his head (a-rhythmical) and looks away from me. He stops abruptly and says that it sounded awkward.

Next session he chooses to play the classical guitar. Again C. is playing soft and cannot be lured into any other reaction. Subsequently I decide to accompany him on the piano. I encourage him to play louder by stating that I cannot play any softer on the piano. His facial expression looks grim and he bends his shoulders forward. He reacts abruptly by shifting from classical to electric guitar, turns up the amplifier and shouts: "Try to get over this with your piano!"

2.4.3 The use of scientific methods

The latter example shows how important it is to use different assignments to assess specific behavior. This avoids jumping to premature conclusions. Measuring the same concept with different indicators enhances the validity of scientific research, so it will enhance the validity of music therapy assessment as well. Additional to the use of multiple assignments, I repeat the same assignments over time. This way I can establish a reliable line of reasoning for findings of the assessment, and have a number of arguments to convince a patient of my findings.

2.5 Examples of musical assignments

Five assignments are central during each music therapy observation. These assignments reveal the three manners of func-

tioning within the fields of assessment. Naturally I adjust the assignments to the skill level, capacities or limitation of a patient. I alternate standardized assignments with individual based ones, which are specified towards problem-behavior that could be linked to offence related behavior.

I cherished the hope to create a standardized observation program. The range of variety of disorders, pathology, reflective insight, offence, treatment-motivation and character of the patients in forensic psychiatry however was too large. I decided to meet with patients on an individual bases, because I could more easily relate to their offence. Of course I do not always succeed in exploring offence related behavior, due to major resistance, impenetrability or incapability of the patient.

2.5.1 Drum-set assignment

During music therapy I try to invite a patient to play the drum-set at least once. This drum-set assignment provides me with a first impression of a patient's frustration tolerance. I watch the first reaction of the patient when he steps behind the instrument and sits down. Does he immediately dare to play? Does he wait? What is the first thing he plays (does he listen to tone, timbre, beat, rhythm, dynamics)? How does he structure himself while exposed to such a number of instruments (a drum-set consists out of a bass-drum with foot-pedal, a snare-drum, a floordrum, two tom-toms, two cymbals and a high-hatt (a double cymbal with foot-pedal)? Can he ask for help? How does he ask for assistance? If I play an example, what does he do with it? How does he react? What seem to be the parts that catch his attention? What and how does he memorize?

I teach a patient step by step how to play a beat on the complete drum set or only two drums. What is his motivation to continue or to quit? How long and how intense can he stay focused? How aware is he of his own span of attention? How long will he persevere; when does he give up? Which gross motor skills does he apply (hand-foot, left-right, eye-hand coordination)? What happens if he fails to grasp the patterns straight away? Is their tension observable and if so, how (physical, facial expression, verbal, emotional)? Is any reflection on the situation possible? What happens with the patient if he succeeds to play the beat?

Patient A. has overcome his first boasting on the drum set and asks me whether I can teach him the rhythm I just played for him. I explain what he should do: Right, left, hands, feet. He has major problems coordinating his body, but he does not give up and continues his effort. His perseverance is big and his frustration in this situation only seems to make him more determined. Stress is rising. Strain is evident in his rounded back, muscle tension of neck and arms. Tension is audible in the beats on the snare-drum following one another faster and faster and more cramped. He does not stop until I advise him to and even then he is reluctant. He wants to continue till he can play the beat. "If you can play it, I certainly can learn it," he adds.

2.5.2 Drum pattern assignment

The drum pattern assignment aims to assess the stability and compliance of a patient. This exercise gives a good first impression of the assessment field of common behavior and selective attention. I ask a patient to play a rhythmic pattern on drum-set or drum. I accompany him on a djembé. If there' is a certain stability in the pattern or beat, I add different rhythms, breaks, fills, tempi, measure changes. This way I can assess if and how a patient is able to keep his own actions steady and stay in touch with his surrounding.

Does the patient start playing impulsive, hastily, expressive, cautious, tensely or impending? Does the rhythm he plays fit in a measure or does it become a pattern? Is the rhythm replicable? How many variations can I add before a patient loses track, asks me to stop or quits? Does he blame himself or me for failing? Does he keep in touch? What supports him?

2.5.3 Dalcroze assignment

The Dalcroze assignment explores the leniency, rationality and musicality of a patient. I modeled this assignment after one of the piano-improvisations of Dalcroze (a French pianist, who developed an educational program to teach children to improvise (Farber, 1991)). Therapist and patient are playing together on one piano. I ask the patient to play a single note. As soon as the sound has stopped I can play a single note. This turn-taking continues. I observe whether a patient gets into the musical swing or not. Does he listen to the gestalt or to one note at the time? How does he react if I make a tone sound longer (and he

cuts me short against the rule)? (How) does this change his pattern? (How) does he stop if he wants to?

2.5.4 Piano improvisation assignment

Using this assignment I make an assessment of the social behavior of a patient. This assignment gives me information about the manner in which a patient interacts, builds relationships, recedes and forms his independency. Again we share one instrument, the piano. Depending on the piano-skills of the patient I start with an exercise on the black keys, to increase the success experience of the patient. An improvisation on black keys sounds almost always very harmonic and consonant. I ask the patient to start with a free improvisation, while I do the same. The only task is to end together. How does the patient listen? Does he wait for me, or dare to start alone? (How) does he react on my improvisation? Does he play his own improvisation? Can he complete the improvisation? How does he communicate that? Does he react to my completion? Does he accept it? Naturally I take into account prior musical experience of a patient, because this can significantly influence the musical interaction (e.g. Hakvoort, 1996)

2.5.5 Keyboard territory assignment

This assignment provides an impression of a patient's capability to set and accept boundaries and coping skills. This exercise gives me a lot of information about interaction, accepting limits, autonomy, keeping and respecting boundaries. I ask the patient to repeat the piano improvisation assignment, sometimes with a role switch (who starts this time) or using a different tonal scale. This time however I use more and more keys, sometimes hardly leaving the patient any space. Depending on his reaction I stop when he has no or hardly any keys left. We continue playing when he uses adequate coping skills, such as crossing my arm or asking me to back off or quitting. Subsequently I discuss this incident with the patient. What reactions, emotions or thoughts were evoked during this assignment? How does the patient handle the proximity, what reactions does this evoke and how does that make him feel? Is he satisfied with his own resolution? Can he reconsider other solutions?

I often repeat this assignment immediately to check what a patient has learned from this situation during the next improvi-

sation. Does he stick to the middle key? Does he push my hand away? Does he quit when I come near? Does he counter-attack? This assignment often provokes analogies with offence related behavior (especially concerning offences in relational area). With some patients these analogies can be discussed, for others these verbal reflections are to confronting or difficult.

2.6 Contra-indications for music therapy

This music therapy assessment has the possibility to prompt clear clues for patients' manners of functioning and subsequent treatment indications. I do, however, not support the idea that each patient benefits from music therapy. In my opinion a professional music therapist should be capable of stating when patients are not fit for this kind of treatment. Therefore the music therapy observation program also offers reliable contra-indications.

Patient D. is in his mid-fifties. He is suffering from schizophrenia. He is doing reasonably on the ward. Moody but relaxed he enters the music therapy room. Immediately he turns somber. He gets depressed, no matter whether we listen to music or actively play music, whether he plays alone or together with me, notwithstanding the musical style or instrument. This worsens during the hour and gets worse each session. During the third music therapy session he states being suicidal. Music confronts D. (too) intense with his loss of freedom and (mental, physical and emotional) limitations. In consultation with the senior psychologist I decide to terminate the music therapy observation.

Situations for me that mark contra-indication for music therapy in forensic psychiatry are:

- The overt- and active behavior of a patient in music does not show any signs of offence related behavior. The absence of offence related behavior can have different causes. For example a patient might lack any musical feeling or affinity with music, so he is not at all capable of handling the music as a tool for behavioral or emotional change.
- There is no evidence of a transfer of musical behavior to daily life during the observation period (even after prolongation or intensification of the music therapy).
- While making music a patient shows healthy behavior and is

able to use adequate coping skills when faced with unexpected situations.

- Due to an extending musical practice a patient does not encounter difficulties or obstacles that he meets in daily life (or in circumstances surrounding his offence) during music therapy.

Patient G. suffers from a severe drug addiction since he was 14 years old. He has lost any structure in his life, is not capable of planning ahead and is completely dependent on outside-structures. He has murdered his landlord, in a drugs-induced paranoid delusion. G. has played the drum-set for many years (since his first incarceration in a juvenile correction facility, he has owned different drum-sets which he sold if in need of narcotics). In the first music therapy sessions he acts like a whirlwind. He touches each instrument shortly before skipping to the next one. Not one of my interventions changes this behavior, whether I play, listen or speak to him. I link this to his daily-unstructured behavior.

During the third session I offer him the drum-set and drum pattern assignment. When G. sits down behind the drum-set, he is suddenly able to structure himself and starts playing spontaneously different beats and patterns. He feels uncomfortable as I watch and observe him, but is willing to prove that he can structure himself on the drum-set. He is not able to make a plan of what and how he will practice, but while exercising, he works very structured on technical, physical and emotional problems he encounters.

If I join him musically during the following sessions he is able to play whole songs and keep a steady beat (even if I slow down or speed up). He can't stand it when I experiment with his behavior. But as long as the musical structure is clearly present he can play along, rehearse and re-establish his old drum techniques. Of course offence related behavior is apparent during the process of making music. There is however not a single piece of evidence that my interventions make any kind of transfer to his daily life. Besides, G. acts on a healthy level as long as he is drumming. He interacts 'normal' as long as we can make music while he plays the drum-set. I do not want to intervene into this healthy behavior with therapeutic analysis and treatment. So I contra-indicate him for music therapy.

2.7 Conclusion

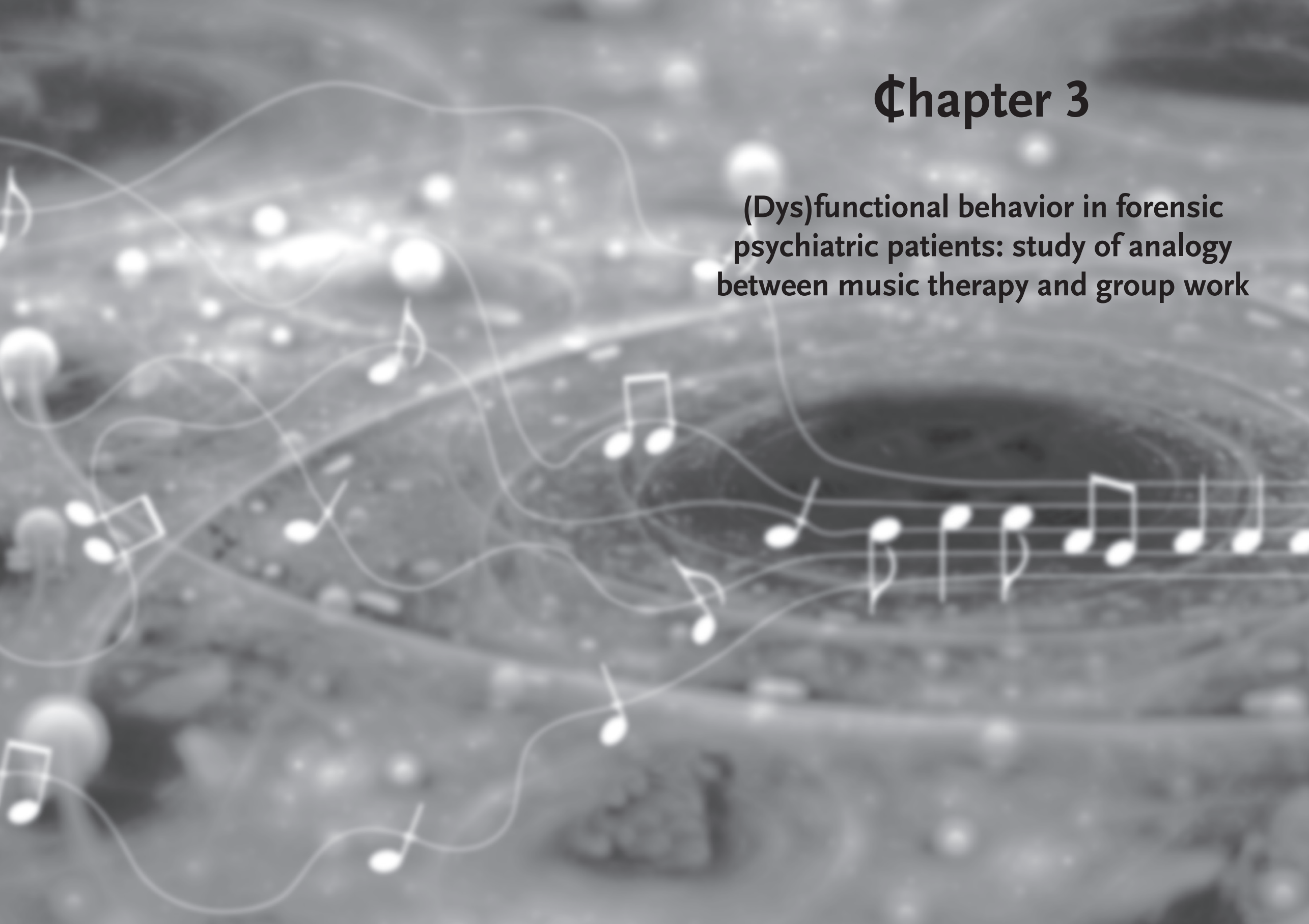
Experience with the presented music therapy observation program in forensic psychiatry demonstrates that the power of music therapy is vested in its capacity to observe a patient in action. While making music, a music therapist can assess conduct skills, coping-skills and offence related behavior of a forensic psychiatric patient. Observation is stronger when based on the overt (re)action of the patient than upon the discussion of what has happened.

Psychological reports mainly describe what a patient tells the psychologist and what impression he makes. Group workers describe a patient's daily behavior in the structured program of a unit. Music therapy (among other art, dance, drama and psychomotor therapies) is capable of exposing important situations and mechanisms in which a patient reacts, acts, positions and expresses himself. For the treatment process of a forensic psychiatric patient it is essential that he can use these experiences to learn and take control of these new behavior strategies (e.g. Drieschner, 1997; Gallagher & Steele, 2002; Hakvoort, 2002a; Watson, 2002).

The possibility to: (a) observe the 'action' of a patient and (b) to actively intervene and experiment with this behavior is a quality that distinguishes music therapy from verbal oriented therapies or group-work. Music therapists should advocate this far more explicitly. I plead strongly in favor of validating systematically and scientifically these possibilities of music therapeutic observation and treatment.

Chapter 3

(Dys)functional behavior in forensic psychiatric patients: study of analogy between music therapy and group work



(Dys)functional behavior in forensic psychiatric patients: study of analogy between music therapy and group work¹

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Due to its nature of evoking basic emotional, cognitive, behavioral and neurological reactions in people, music in therapy can be an appropriate tool to evoke emotional, cognitive, neurological and behavioral reactions (Gabrielsson, 2010; Juslin, Liljeström, Västfjäll & Lundqvist, 2010; Peretz, 2010; Sloboda & Juslin, 2010; Thaut, 2005). Therefore music therapy is applied in a broad area of health care. Many theories on music therapy – one more explicit than the other – are built around the assumption that there are (significant) similarities between frequently occurring musical reactions and the psycho-social-emotional reactions of patients to stimuli. Musical reactions of a patient to a musical situation are hypothesized to show similarities to their non-musical (psychological) reaction in real-life events. Several studies on music therapy state that there is a similarity between reactions of a patient shown during musical situations and reactions in daily life (Aigen, 2005; Erkkilä & Eerola, 2010; Tyler, 2000). Sometimes, even more, musical reactions and behaviors are not only assumed to show analogies with reactions and behavior in daily life, but also even with offense related behavior. The case of Benny (Box 3.1) is an example of this similarity out of a music therapy session in a forensic psychiatric clinic. The example illustrates how a musical situation in music therapy can be linked to a daily-life situation, with similar reactions of a patient.

Smeijsters (1992, 2005) was one of the first to develop a theoretical framework about this implicit assumption apart from psychological or philosophical theories what he called the ‘model of analogy’. His assumption is that (musical) reactions of a patient to (musical) situations equal outer-musical and psychological reaction. “Re-sounding the client’s psyche in music (...) sounding his life in the here-and-now” (Smeijsters, 2005, p. 37). This analogy between a patient’s psyche and his music is best to be heard in a free improvisation. Smeijsters (2005) elaborated his model of analogy upon the works of Damasio (1999, 2003) on neuro(psycho)logy, and psychological researches by Stern (1999, 2004).

Damasio (1999, 2003) found in his studies that most human behaviors happen automatic and unconsciously, but only as far as our core-self has learned these behaviors through prior expe-

Abstract

Music therapy literature often assumes that reactions of clients demonstrated during music therapy show similarities with other situations. This theory is described as the theory of analogy. This study aims to explore these similarities in the context of forensic psychiatry. Forensic psychiatric patients are observed by sociotherapists for specific behavior at the living unit. These results are compared with the observations of behavior during music therapy. Twenty participants are included in the study. Scores of different observation scales are compared. With regard to verbal and dysfunctional behavior, as well as non-observed behavior, significant similarities exist. Coping, interaction and assaultive behavior showed no significant similarities. The results suggest that the theory of analogy should be applied with caution.

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Box 3.1. Single case description of behavior similarities during a music therapy session.

Benny has been convicted for incest of his stepdaughter and is suffering from a dependent personality disorder. The incest followed episodes of feeling humiliated by and powerless towards his wife. He took sexual revenge on her daughter. His overall treatment goals focus on adequate expression of tension and handling boundaries under stressful situations.

Benny is sitting on the right side of the piano. The music therapist sits on the left side. They share one piano, a very intimate assignment. Benny is asked to alternately (Benny – music therapist) play musical single notes (Dalcroze assignment; see 2.5.3). Notes are not allowed to sound simultaneously. The stress-enhancing situation is sharing one instrument and to avoid any musical mistakes.

The music therapist plays within a rhythmic pattern every time she plays her notes. Benny imitates her. Then she suddenly holds one key of the keyboard pressed down, so the tone rings out longer. Benny, not expecting this to happen, sounds his tone. Realizing that he made a 'mistake' he verbally apologizes and promises to be more alert. In the following minute he tries to create a situation in which he can settle the scores with the therapist and lead her into 'mistakes'.

Later Benny and the therapist improvise 'freely', but have to end the musical improvisation at the same moment (Piano improvisation assignment; see 2.5.4), without verbal interventions. During this improvisation, the music therapist's hands crawl up to the right side of the keyboard (Territory assignment; see 2.5.5). Benny, knowing that he has to work on his boundaries, tells her to back off every time, she passes the central G. After two times his face is coloring deep red and he threatens to stop if she does it again. He is sweating and his mimic and posture are tense, but he actually stops after the third attempt of the therapist to pass the central G.

Benny tells the therapist that there is a connection with his (musical) reaction now and with stressful situations at home. Just like his wife, the therapist did not stop when he asked her to and he felt tensed. He wanted to get even with his wife (the therapist points out his reaction during the first assignment).

In music, we observe an ambiguous reaction of what Benny says: he apologizes for his 'mistake', and how Benny reacts: he musically tries to get even with the therapist. Later, Benny clearly describes similarities between his reactions during the musical situation and tension that lead to his criminal offence. The stress evoking situation of losing control, being marginalized, triggers familiar reactions.

rience and knowledge. Our conscious is the conductor and engine of these reactions as long as it has time enough for conducting thinking processes. Music seems to have a direct entrance to this unconscious core-self because it has a direct path to deeper brain areas. Even children born without a brain-cortex can enjoy music and have some sense of their core-self (Peretz, 2010; Thaut, 2005). Therefore musical behavior shows analogies with unconscious non-musical behavior.

Stern (1999, 2004) researched 'present moments' with mothers and their infants and later in experimental studies. These present moments or 'key moments' are implicit experiences of an intimate interaction with the other(s). These key moments between people show in their composition a remarkable resemblance with music. The implicit experience of the moment is more important than the explicit verbal material of the moment for the therapeutic progress. According to Damasio (1999, 2003), the link with making music is as follows. When people make music together, this implicit process itself has more meaning than any verbal comment on it during the process or later on.

Music therapists, whether working within forensic psychiatry or with other populations, claim this congruency between musical and psychological engagements as well, because patients tend to verify certain reactions in musical situations to resemble reactions on outer-musical situations, or tend to link there musical behavior to non-musical, psychological behavior. The link is not a rigid pattern, but a "connection between the musical and psychological dimension" as constructed in the therapeutic relationship between the music therapist and the patient, according to Smeijsters (2005, p. 182). This makes analogy vulnerable to the (psychological) interpretation of the therapist.

Watson (2002) made a systematic comparison of her own observation of forensic psychiatric patients with statements of patient and staff observation, to assure progression towards treatment goals, after drumming and improvising with sex offenders in music therapy treatment. She found that staff and music therapists alike judged the same progress in patient's behavior.

However, Hakvoort (1996) studied the interaction during a piano-improvisation and found a significant difference in musical interaction patterns between a music therapist with musicians and a music therapist with non-musicians. The musical improvisation of the non-musicians with the music therapist showed

a significant lower level of musical interaction than the musical improvisation of the musicians with the therapist. If applying the theory of analogy, it would result in the statement that non-musicians function socially on a much lower level during daily life than musicians, due to their limited musical interaction patterns. That such a conclusion would be 'incorrect' is evident.

Expression and communication of emotion in music is a well-researched field within music psychology. Juslin and Timmers (2010) found that a good musical performer is well capable of communicating and transferring his or her emotions to listeners. However, music itself has only a limited capacity to convey this information and the listener models the music to fit his or her meaning and emotional state. So any assumed analogy between emotion and music should be met with caution.

In forensic psychiatry, the theory of analogy between specific reactions in daily life and criminal behavior is used within other disciplines as well. Take for example the so-called offense paralleling behavior (OPB; Daffern, Jones, Howells, Shine, Mikton, & Tunbridge, 2007). This approach is mainly used in the UK and Australia to help sociotherapists, psychologists and forensic nurses to discriminate between 'regular violent behavior' and offense related behavior. OPB is defined as: "a behavioural sequence incorporating overt behaviour (that may be muted by environmental factors), appraisals, expectations, beliefs, affects, goals and behavioural scripts, all of which may be influenced by the patient's mental disorder that is functionally similar to behavioural sequences involved in previous criminal acts" (Daffern et al., 2007, p. 267). The observation of OPB is applied to identify intervention opportunities, additional risk assessments and to monitor progress in treatment. Daffern et al. (2007) warn for the impact of observer bias if looking for similarities between behavior in a certain situation and the presumed offense behavior. A chance observation should be minimized in favor of systematic recorded observations. A predicted scheme of behaviors should be matched before one could assume any offense paralleling behavior.

During many years of assessing and treating forensic psychiatric patients within music therapy, it can also be assumed that forensic psychiatric patients show similar behavior reactions during music therapy as in their daily life or even offense related behavior. The core assumption is that an analogy can exist

between observed musical and non-musical reactions. But, is this wishful thinking, observer bias or reality? To what extent is there conformity between behavior demonstrated during *music therapy* and *daily life*? Before exploring the researched behavior, it is important to have some understanding of the background of the research subjects.

3.1.1 Music therapy in forensic psychiatry

Forensic psychiatric patients in the Netherlands are offenders sentenced to a consecutive hospitalization after their imprisonment. They are hospitalized in a forensic psychiatric center under a code of law (Van Marle, 2002). The main reason for this combination of incarceration and hospitalization is a (history of) violent crime(s) in combination with psychological and/or psychiatric disorder(s) and an eminent chance of relapse into a violent crime. Forensic psychiatric patients can be seen as a very heterogeneous population and suffer mainly from (major) deficits and handicaps; cognitive, emotional, social, mental, psychological as well as psychiatric. More than 80 percent of the forensic population suffers from at least one personality disorder. Thirty-four percent of them suffer from a Cluster B (anti-social, borderline, narcissistic, etc.) and 40 percent not otherwise specified (NOS) personality disorder. Over 60 percent of the forensic psychiatric patients have a combined Ax-1 and Ax-2 diagnosis (DSM-IV-TR, APA (American Psychiatric Association), 2000). A majority (65 percent) of the forensic psychiatric patients suffer from addiction of a psychedelic substance. One of every five patients has a mental retardation as well (Van Emmerik, 2001). The primary goal of their hospitalization is to secure society from 'dangerous' individuals. The secondary goal is to offer treatment to minimize their chances of relapse into (similar) violent crime (Douglas Broers, 2004). A large number of forensic psychiatric patients are not motivated to engage in any treatment. Some of them experience their involuntarily hospitalization as an additional punishment, an unfair sentence or extra imprisonment.

The main focuses of the treatment in forensic psychiatry are on relapse-prevention. The main purpose of relapse prevention is changing and elaborating a patient's behavior repertoire to prevent him from recidivism. The treatment is generally considered in a multi-disciplinary setting to offer the patient the possibility to be confronted with many different situations where he can

practice and demonstrate his relapse-prevention skills. Treatment modalities are for example, cognitive behavioral therapy, schema-focus therapy and psychodrama combined with neurological, biological and psychosocial orientations. Music therapy is often a part of this multi-modal treatment approach in forensic psychiatry in the Netherlands (Dijkstra & Hakvoort, 2010; Fulford, 2002; Gallagher & Steele, 2002; Reed, 2002; Wyatt, 2002).

Smeijsters and Cleven (2004) interviewed music therapists (among other art-related therapies) working within forensic psychiatry in the Netherlands and showed strong consensus on the role of music therapy within the forensic psychiatric treatment program. The overt problematic behavior of a forensic psychiatric patient determines the indication for and interventions of music therapy (Smeijsters & Cleven, 2004). Consequently, music therapists working in forensic psychiatry have developed very specific treatment programs, oriented on overt behavior of patients and influencing the so called risk-need-responsivity principals (Andrews et al., 1990; Bonta & Andrews, 2007) and the Good Lives Model (Ward & Brown, 2004). Most music therapy programs are specifically designed to contribute to reducing risk factors and improving protective (or need) factors of offenders, such as coping skills and preventing aggressive behavior (Davieson & Edwards, 2001; Gant, 2000; Hakvoort, 2002; Zeuch, 2003; Zeuch & Hillecke, 2004). So, to what extent does musical behavior of forensic psychiatric patients during *music therapy* match daily behavior demonstrated at the *living unit*?

3.1.2 Coping and musical assessment

As mentioned before, within forensic psychiatry there is an emphasis on overt behavior during assessment and treatment. This offers an opportunity to systematically assess and compare patient's behavior in musical and outer-musical situations. Overt behavior in general is a very broad field of study. To narrow down the behavior component of this study, we focus on coping skills as a psychological validated classification of reactions of people. Coping in this study follows the definition of Folkman and Moskowitz (2004) and is defined as those behaviors and thoughts applied to deal with demands, whether external or internal, of confronting circumstances that are considered to be stressful by a person. Coping skills can be observed as overt reactions during everyday activities as well as staged activities, such as assign-

ments during music therapy. Coping skills concern the repertoire of cognitive, behavioral and emotional adjustment a person is able to make to (shifting) situations. A person has 'healthy coping skills' if he can react flexible and is able to adjust to confronting stress-enhancing situations (Folkman & Moskowitz, 2004).

Notwithstanding their inherent behavioral orientation coping skills are commonly measured through self-rating formats, such as the American 'Ways of Coping Checklist' (Folkman & Lazarus, 1984, 1988) or the Dutch 'Utrecht Coping List' (UCL, Schreurs, Van de Willege, Brosschot, Tellegen, & Graus, 1993). A drawback of self-rating formats—reported in most of the meta-analyses of coping lists—is the crucial problem of socially desirable answers (Bijttebier, Vertommen, & Vander Steene, 2001; Sommerfield & McCrae, 2000). The instruments measure probability reactions on fictitious situations, or at most the recalls of confrontations with stressful situations. Besides, these checklists are validated on 'regular' people. They are difficult to apply with populations that lack treatment motivation such as forensic psychiatric patients. The UCL for example misses any norm-group for psychiatric patients, let alone forensic psychiatric patients (Van Beurden, 2005). There is no norm-group in any self-rating formats in coping research for coping skills of forensic psychiatric patients. In Dutch forensic psychiatry, there are a number of observer checklists used as risk assessment tools to monitor patients development and skills. Reliability and objectivity of these risk assessment tools differ (Harte & Breukink, 2010). One of those assessment tools is the 'Forensic Psychiatric Profiles 40' (FP40), developed by Brand and Van Emmerik (2001). This risk assessment-tool has a specific coping observation scale validated for forensic psychiatric patients. Brand and van Emmerik (2001) adapted the self-reported questions from the UCL and added 'aggressive, destructive behavior' to fit the population of forensic psychiatric patients. After scale analyses they defined three coping skill scales for forensic psychiatric patients, positive coping, negative coping and avoidance. Positive coping comprises reactions such as acceptance, seeking support, humor and adequate reactions on the situation. Avoidance contains behaviors such as ignoring, retraction, evasion and denial. Negative coping includes verbal threats, scolding and physical aggression. Sociotherapists score these coping skills on special observer checklists for each patient during his daily routines.

Forensic psychiatric patients are confronted with stress-enhancing situations on the living unit (such as having to obey to rules of sociotherapists, being confronted with the disappointment for ungranted street time). Their coping reactions are observed and scored. The more stress-enhancing a situation is perceived, the more ferocious or rigid the coping reactions tend to be. Study showed that forensic psychiatric patients tend to show rigid coping strategies, with reactions of avoidance, or aggression, on different situation (Brand & Van Emmerik, 2001).

Coping skills can be observed during musical assignments as well. During music therapy patients are staged into (musical) situations in which they are forced to demonstrate their (musical) capabilities and limitations to modify their behavior and adjust to a situation. The music therapist manipulates different situations. Box 1 illustrates such a confronting intervention.

Music therapists create controlled situations to measure the adaptive abilities and coping reaction of (forensic psychiatric) patients (Smeijsters & Cleven, 2004). Again the assumption of analogy is applied. Music therapists initiate musical assignments that could realistically resemble outer-musical coping-situations. These musical situations can be manipulated to certain stress-levels. The ability of music therapists to create a specific stress-evoking situation for a patient while making music is one of the strengths and achievements of music therapy. In (musical) situations the therapist is able to confront a patient and assess his reactions on this confrontation. Since a confrontation in a stress-evoking situation occurs while playing music, following the theory of analogy, patients are assumed to show their typical coping skills. But because the situation is perceived to be 'just about playing music', most of these (sometimes unpleasant) confrontations do not have ethical consequences for a patient.

Benny, for example, is confronted with feeling powerless. He shows similar reactions during the musical assignment as during situations leading up to his offenses. Because the reactions occur while making music he perceives them as not traumatizing although very confronting. His reactions are less ferocious than the ones he showed during the situation leading up to his offenses. This suggests that music therapy might be a 'safe' situation to assess offense related behavior. The aggressive behaviors seem to be tempered, while the other coping skills seem to show similarity.

During music therapy the observation of coping skills and possible social dysfunction and aggressive behavior will be on non-musical as well as on musical behavior and interaction (e.g., Dijkstra & Hakvoort, 2010; Gant, 2000; Hoskyns, 1995). Situations under investigation are failing, being declined, etc. during music therapy and at the living unit. There are some differences as well. Sociotherapists do not manipulate living situations to provoke reactions of a patient as music therapists do. So it is interesting to explore in a small study whether there is an analogy of coping skills, social dysfunction and aggressive behavior between music therapy and sociotherapy.

The research-question is defined as: to what extent does the assessment of musical coping skills, social dysfunction and aggressive behavior of forensic psychiatric patients during *music therapy* match the coping skills, social dysfunction and aggressive behavior demonstrated at the *living unit*? The dependent variable in the research would be: (a) the number of matching coping skills, and (b) the number of matching social dysfunction and aggressive reactions of patients during music therapy and at the living unit. In line with the theory of analogy, at least some analogy between the coping skills of patients during music therapy assessment and coping skills during daily life at the unit is expected. There is one exception and that is the similarity between the aggressive behaviors of patients as shown during music therapy and in daily life. It is hypothesized that they show no similarity, because music therapy is a 'safe' situation; a confrontation with stirring emotions tend to provoke less violent reactions during music therapy than at the living unit.

3.2 Method

3.2.1 Participants

The Medical Ethical Commission of the University of Groningen approved the study. Participants for the present study were male patients within their first 12 months of admittance in one of three Dutch forensic psychiatric clinics in the years 2009 and 2010. Patients who suffered from acute psychosis or schizophrenia, or patients who had an intelligence quotient lower than 75 were excluded from the study. The reason for the exclusion of these categories is that patients were observed in music therapy observation sessions during which subjects were manipulated into stress-enhancing situations. These patients might not stand the

pressure, and could decompensate into a psychosis or irrational violence. Because 94.6 percent of the forensic psychiatric patients are male, and very few patients are older than 60 when they first enter the forensic psychiatric system, female subjects and subjects older than 60 year were excluded from the study in order to increase the external validity of results.

3.2.2 Design

To be able to analyze similarities of coping skills and dysfunctional or aggressive behavior of the patients between music therapy and their daily life, these behaviors of the patients were scored. The music therapists observed systematically the coping skills, dysfunctional and aggressive behaviors during two protocol led one-hour individual music therapy assessment sessions. During the same period sociotherapists independently assessed and scored the patient's coping skills, dysfunctional and aggressive behaviors at the living unit.

3.2.3 Musical assessment program

The patients participated in a standardized musical assessment program (two one-hour sessions of one week apart). Hakvoort (2007b) developed a standardized musical assessment procedure on the basis of several years of working experience, a triangulation of literature on (music) therapy assessment procedures, and critical input by music therapy colleagues in the field of forensic psychiatry. During the individual musical assessment the patient is confronted with standardized stress enhancing situations through a number of (well-defined) musical assignments and improvisations (see paragraph 2.5).

The music therapists who carried out the observations were board-certified. They were trained in the protocol led observation procedure and carried out these standardized observation with a number of their patients. They were skilled to trigger, handle and score the coping skills and the possible dysfunctional or aggressive reactions of forensic psychiatric patients. They filled out the score forms right after the second observation session (see outcome measures). Besides they partook in regular supervision sessions with the researcher and one another to optimize the internal integrity of the study.

3.2.4 Outcome measures (tests)

Each music therapist assessed the coping skills of her patients and scored them immediately after the second musical observation session, using a (for music therapy) adapted version of the coping checklist for forensic psychiatric patients, the Forensic Psychiatric Profiles 40 (= FP40 coping lists by Brand, 2006).

In addition, they filled out selected scales of the Atascadero Skills Profile–Dutch Version: the “ASP-NV” (Vess, 2001, translated by researchers of Forensic Psychiatric Center Dr. S. van Mesdag, 2004). The selected scales are: scale 1 (Self-management of psychiatric symptoms), scale 3 (Substance abuse prevention skills), scale 4 (Self-management of assaultive behavior), and scale 9 (Interpersonal Skills). The Atascadero Skills Profile was checked for reliability and validation in music therapy, as a part of rehabilitation therapy (Neville & Vess, 2001) at the Forensic Services of the Atascadero State Hospital, San Luis Obispo, CA.

The music therapists also rated the scores of the patient on the Dutch Social Dysfunction and Aggression Scale: the “SDAS” (Wistedt, Rasmussen, Pedersen, Malm, Träskman-Bendz, Wakelin, & Bech, 1990) with Dutch forensic psychiatric patients as a norm-group (Nijman, Muris, Merckelbach, Palmstierna, Wistedt, Vos, Van Rixtel, & Allertz, 1999). This rating took place after the second session of the musical assessment program was completed. An independent second observer viewed the videotapes of the music therapy observation sessions and scored them on similar score forms.

Sociotherapists were trained to observe and score coping skills and dysfunctional and aggressive behavior. On the day of the second musical observation, two sociotherapists were asked to independently fill out the FP40 coping list for Socioterapy (Brand, 2006) in order to obtain data on the coping skills of the subjects at the living unit. In addition, they filled out scales 1, 3, 4, and 9 of the ASP-NV (Vess, 2001). They had to use their observations of the last two weeks. The SDAS (Wistedt, et al., 1990) was scored by sociotherapists during four consecutive weeks, starting two weeks before the start of the first music therapy observation (for validation reasons of this score form).

3.2.5 Statistical analysis

Outcome measures are the scores of the music therapists and sociotherapists on the FP40 coping lists, the ASP-NV skills profile,

and the SDAS scale. The scores of the two sociotherapists and of the music therapist and independent observer were compared and in case of differences adjusted to a mean score.

The items in the SDAS and ASP-NV are ordinal data. Although the items in the FP40 lists are ordinal as well, the sum of items in three subscales (COPP for positive coping, COPN for negative coping, and COPA for avoidance coping) are recalculated and treated as continuous variables. Scatter plots were created for a visual inspection of the relation between the scores of music therapy and sociotherapy on each specific scale. Because the data are not always normally distributed, and the n is small (see for example the scatter plot for negative coping skills) a “distribution free” Spearman’s Rho (ρ_{sp}), a nonparametric correlation test, was used to compare the scores of coping skills assigned by music therapists to subjects with the scores of coping skills collected by sociotherapists during subjects’ daily life at the unit. The same procedure was followed with the scores for dysfunctional and aggressive behavior (SDAS) during music therapy and sociotherapy. Scores for the four scales of ASP-NV were analyzed using the same methods.

3.3 Results

3.3.1 Participants results

The total number of musical observation assessments completed for analysis is 20. This is about 10 percent of the 200 recently admitted forensic psychiatric patients in the Netherlands in 2009 and 2010 (Van Gemmert & Van Schijndel, 2011). The small sample size can be explained by the fact that music therapy is conducted in a limited number of forensic psychiatric centers in Netherlands, despite the increasing interest in music therapy as a result of positive behavioral observations. A fair amount of forensic psychiatric patients do meet the exclusion criteria or are hospitalized in one of the clinics that did not partake in this study. Of the twenty-three initially invited participants, 3 refused to partake.

3.3.2 Atascadero Skills Profile results

These data mainly contain the verbal explanation of patients about what strategies they would use when confronted with possible reoccurring of psychiatric symptoms. See Figure 3.1a for scatter plot of self management of psychiatric symptoms and Fig-

Figure 3.1a. Scatter-plots of Self-management of psychiatric symptoms observed during music therapy (horizontal) and sociotherapy at the living unit (vertical)

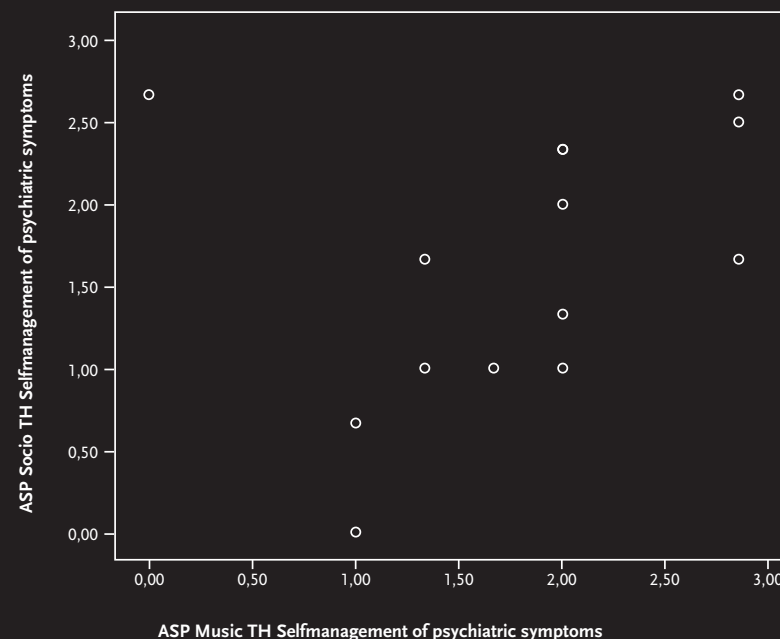
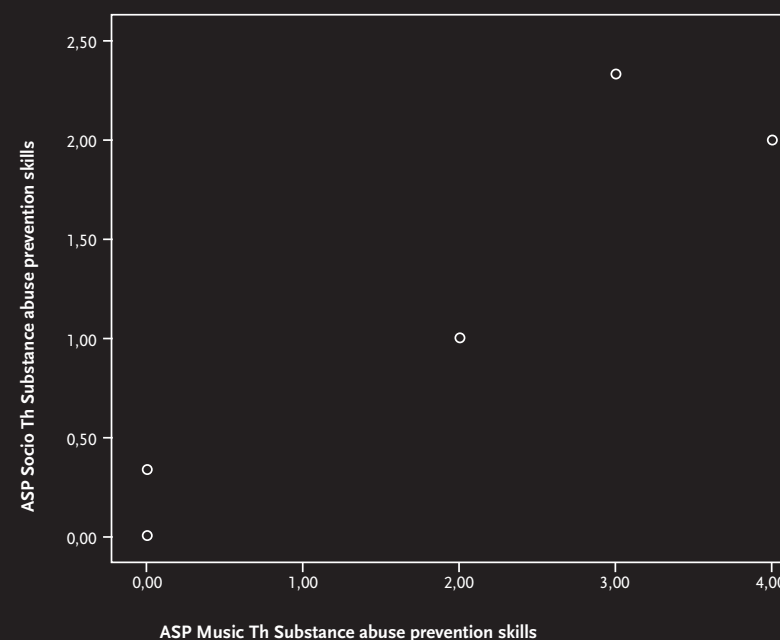


Figure 3.1b. Scatter-plots of Substance abuse prevention skills observed during music therapy (horizontal) and sociotherapy at the living unit (vertical)



ure 3.1b for substance abuse prevention skills. For self management of psychiatric symptoms there is a positive and significant association between the scores obtained during music therapy and those obtained at the living unit ($\rho_{sp} = 0.527$; $n = 15$; $p \leq 0.04$). The scores on substance abuse prevention ($\rho_{sp} = 0.872$; $n = 5$; $p \leq 0.05$) show significant match of discussions about substance abuse during music therapy and with sociotherapists at the living unit. An n of 5 is extremely low. Hardly any music therapist discussed the substance abuse of patients, or came across substance abusing behavior.

See Figure 3.2 of ASP-NV for scatter plots on self-management of assaultive behavior (Figure 3.2a) and interpersonal skills (Figure 3.2b). No significant association is found for self-management of assaultive behavior ($\rho_{sp} = 0.269$; $n = 16$; $p \leq 0.31$) or interpersonal skills ($\rho_{sp} = 0.377$; $n = 19$; $p \leq 0.11$). There is no match between interpersonal skills as demonstrated by patients during music therapy and as observed by sociotherapy at the living unit. So for the four scales of ASP-NV different patterns of similarities are found between the scores of music therapists and sociotherapists.

3.3.3 Coping skills results

The comparisons of coping skills of the subjects based on the FP40 lists, both during music therapy and in their daily life at the living unit show hardly any matches. Figure 3.3 shows that positive (Figure 3.3a) and avoidance coping skills (Figure 3.3b) show variation in the reactions of subjects, both during music therapy and in their living unit situation. Negative coping (Figure 3.3c) is very little observed during music therapy, and observations on this scale are highly skewed.

Spearman's Rho reveals no significant matches between the positive and avoidance coping skills during music therapy and those at the living unit for *avoidance* ($\rho_{sp} = 0.205$; $n = 15$; $p \leq 0.46$); for *positive coping* ($\rho_{sp} = -0.160$; $n = 13$; $p \leq 0.60$).

For negative coping however there was a significant similarity between the behavior shown during music therapy as well as at the unit ($\rho_{sp} = 0.538$; $n = 14$; $p \leq 0.05$). During music therapy there was hardly any negative coping observed (4 times out of $N=14$). In seven cases both sociotherapy and music therapist did not observe any negative coping skills. For methodological reasons of the FP40 the scores are reversed here; the higher the score the less amount of negative coping was observed.

Figure 3.2a. Scatter-plots of Self-management of assaultive behavior observed during music therapy (horizontal) and sociotherapy at the living unit (vertical)

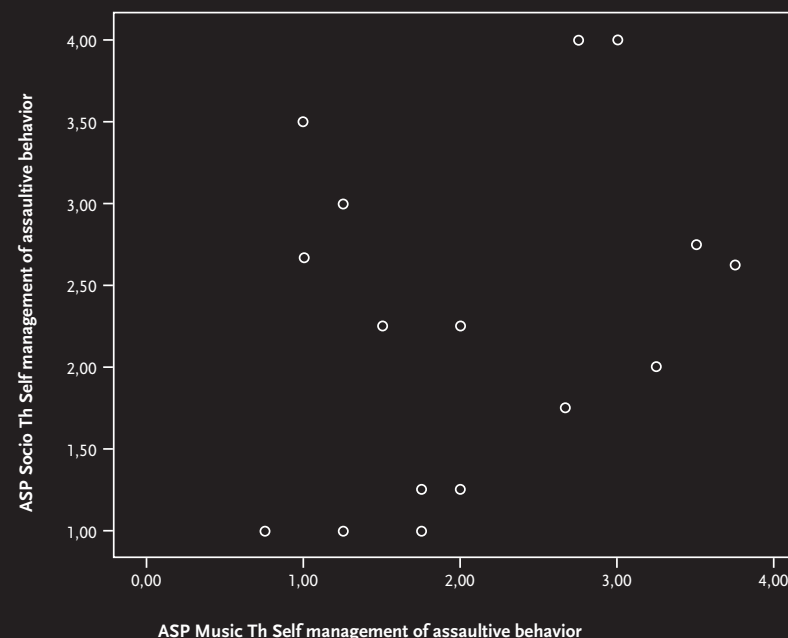
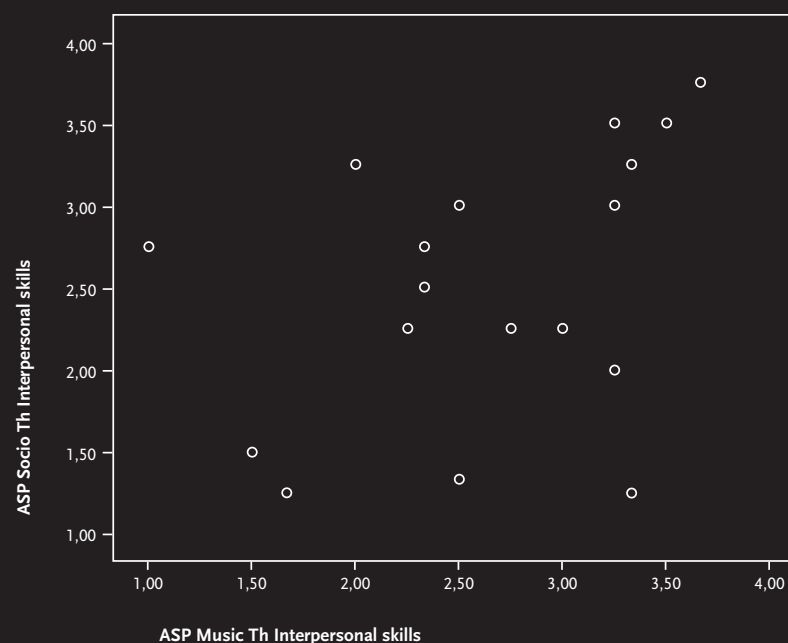


Figure 3.2b. Scatter-plots of Interpersonal skills observed during music therapy (horizontal) and sociotherapy at the living unit (vertical)



As noted earlier, some values are missing for subjects' scores on coping skills at the living unit (values are reported not to be observed by sociotherapists). In order to test whether subjects with specific music therapy coping skills generated 'missing values' for coping skills at the living unit, the music therapy scores of subjects with missing scores on sociotherapy were compared with those without missing scores. An independent samples t-test, for differences in music therapy scores for subjects with and without a coping skill rating from the living unit, shows that both groups do not significantly differ in their mean scores and standard deviation for all three types of coping skills.

3.3.4 Social dysfunction and aggression results

Figure 3.4 shows a scatter plot of social dysfunction and aggression. Spearman's Rho reveals that there is a significant similarity of subjects who score higher (lower) on social dysfunction and aggression in music therapy to also score higher (lower) on these behaviors at the living unit ($\rho_{sp} = 0.585$; $n = 17$; $p \leq 0.01$). However, average scores tend to be much higher at the living unit than during music therapy. The highest score for social dysfunction and aggression during music therapy is 5, while at the living unit the score is tripled (15).

3.4 Discussion and conclusion

The objective of this study was to explore whether similarities emerge in the assessment of coping skills, social dysfunction and aggressive behaviors of forensic psychiatric patients as demonstrated during music therapy and those observed by sociotherapists at the living unit. All patients were hospitalized in one of three forensic psychiatric centers under a code of law. In line with the theory of analogy, it is expected that at least some similarities can be observed between these behaviors of patients during music therapy assessment and during daily life at the unit.

Self-management of assaultive behavior and interpersonal skills seem to show hardly any similarities when scored on the Atascadero Skills Profiles (ASP-NV) during music therapy and at the living unit. One patient, for example, may demonstrate good self-management of assaultive behavior during music therapy but may lack this behavior at the living unit. Another patient may have difficulty in controlling his assaultive behavior both during music therapy and at the living unit. There seems to be no tendency in

Figure 3.3a. Scatter-plots of positive coping skills observed during music therapy (horizontal) and sociotherapy at the living unit (vertical)

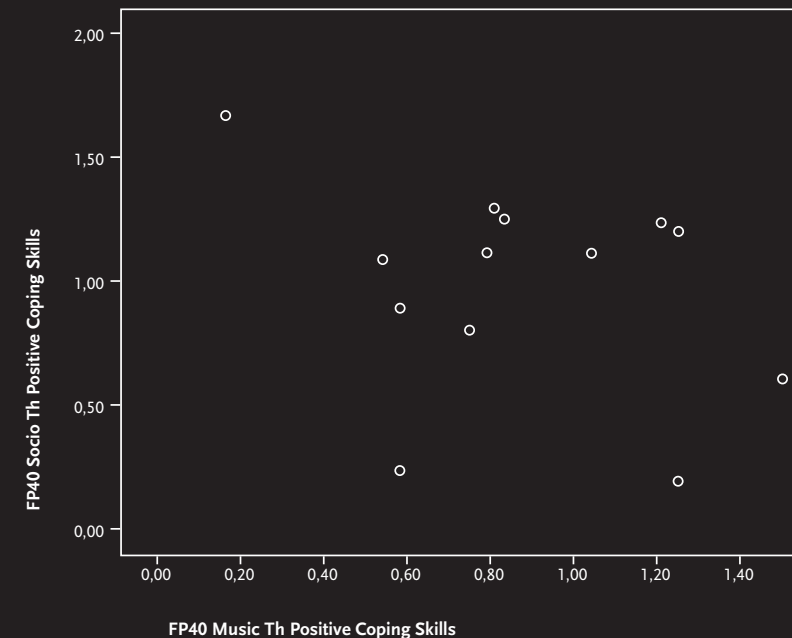


Figure 3.3b. Scatter-plots of avoidance coping skills observed during music therapy (horizontal) and sociotherapy at the living unit (vertical)

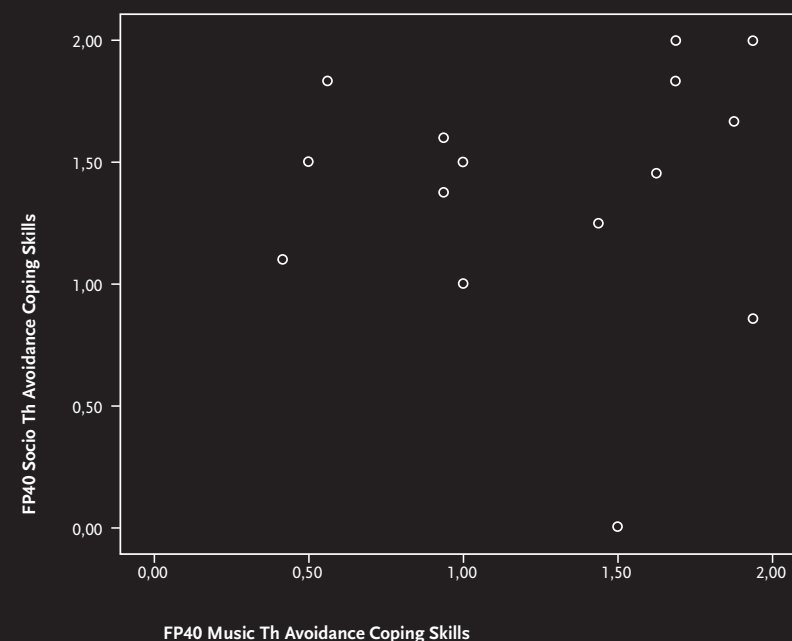


Figure 3.3c. Scatter-plots of negative coping skills observed during music therapy (horizontal) and sociotherapy at the living unit (vertical)

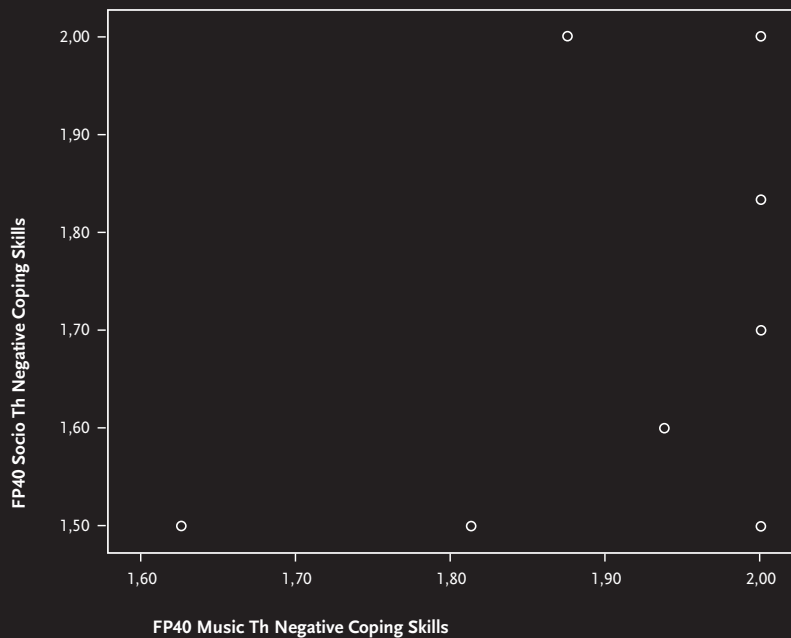
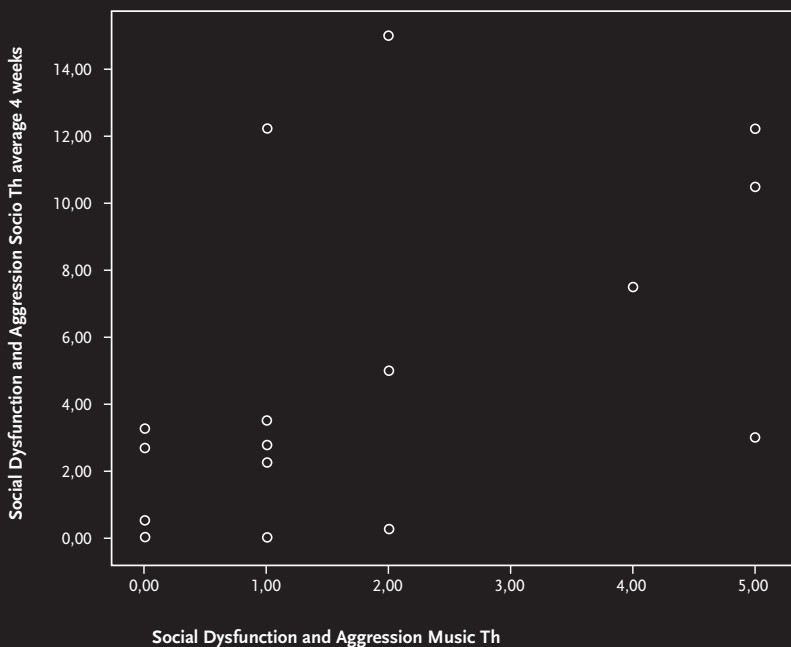


Figure 3.4. Scatter-plot of Social Dysfunction and Aggression observed during music therapy (horizontal) and sociotherapy at the living unit (vertical)



the results that hints at the existence of an analogy between these skills of forensic psychiatric patients during the music therapy and at the living unit.

For positive and avoidance coping skills no significant correlation was observed that would support the theory of analogy. When focusing on the level of positive and avoidance coping skills, the results suggest that patients can react quite differently at the living unit and during music therapy. A patient may use avoidance coping skills (such as retreating in his room, ignoring the problem) at the living unit, but may use positive coping skills (such as trying to explain his feelings) during music therapy.

Three significant correlations in our data are observed. In the first place, a significant correlation is found between the verbal reactions of forensic psychiatric patients during music therapy and at the living unit for the Atascadero Skills Profiles items of self-management of psychiatric symptoms and substance abuse prevention skills. If patients talk about self-management of psychiatric symptoms and substance abuse, these are often socially desirable verbal signals towards all members of the treatment staff. The obvious reason is that substance abuse is strictly regulated in forensic psychiatry. The same applies for verbal signals about the management of psychiatric symptoms (for example the regular intake of their medication). Therefore, it is doubtful whether these similarities in the verbal reactions provide support for the theory of analogy. However, these significant correlations suggest that patients consistently communicate the same messages, verbally, to music therapists and sociotherapists. This offers an indication that ASP-NV was indeed an appropriate instrument to measure the skills under investigation.

In the second place, a significant correlation is found in the negative coping skills of patients during music therapy assessment and at the living unit. This significant relationship arises from the fact that most participants exhibited only very few negative coping skills during music therapy as well as on the living unit. The association is “driven” by one patient with negative coping skills both during music therapy and at the living unit. When studying the broader social dysfunctional and aggression scale (SDAS), a significant similarity can be observed between behavior during music therapy assessment and at the living unit. This is against the hypothesized outcome. Differences were expected here, due to the ‘safe’ environment of music therapy,

where aggression would occur less. Interestingly, this behavior appears to be magnified at the living unit. If a patient shows some modest dysfunctional behavior during two observation sessions of music therapy, there is a larger probability that this dysfunctional behavior is more explicitly present at the living unit. Hence, these results support the hypothesis that some analogy can be observed in the behavior of patients during music therapy assessment and in their behavior during daily life at the unit.

The mixed evidence for the theory of analogy may probably be explained by some limitations of this study. First, sample size is small (N=20). An additional caveat is that there are missing values in the sociotherapy observations. According to sociotherapy four to six patients did not show any coping skill, or no specific situation occurred where a patient could have shown his coping skills. Second, the specific therapeutic context may have driven some of the results. Female music therapists offered the music therapy individually. This context clearly differs from the living unit in which several sociotherapists are present together with ten male forensic offenders. Interventions also can differ markedly. Being rejected by the therapist to partake in a musical improvisation is probably perceived differently by a patient from being rejected to partake in card playing game at the living unit. Being physically or verbally confronted by a therapist (while making music in an individual setting) with the fact that one neglects his boundaries might be perceived as less threatening than being confronted by fellow patients and staff. Alternative explanations for the findings could be identified as well. There might have been a difference in motivation to partake in the study between music therapists and sociotherapists, therefore music therapist might have been more involved in the study than the sociotherapists. Another possibility might be that music therapist are more intensely trained to observe (coping skills of) patients than sociotherapists.

Some forensic psychiatric patients make the parallel between their behavior during music therapy and daily life themselves. Most often these statements occur after situations (such as rejection, incompetence, failure) that confront patients with overwhelming feelings (abandonment, fear, shame). Patients recognize these feelings very clearly throughout their lives. These feelings tend to be dominant, painful emotions in their life's history. So they feel the parallel emotion, but they do not show

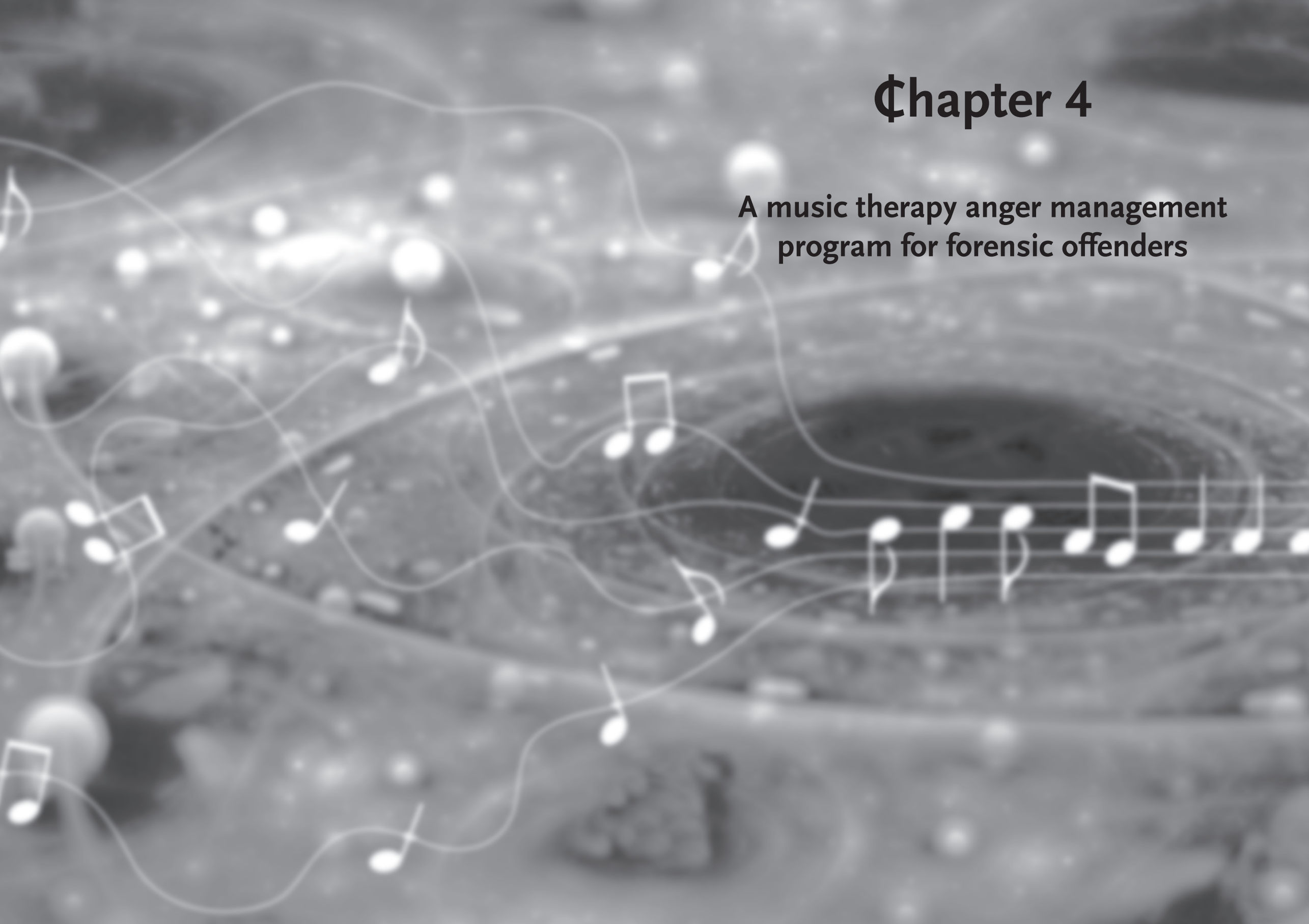
parallel behaviors. The results of this research suggest that on the level of specific behavior, a patient tends to show different behavior under different circumstances, although the stress-enhancing situation might be similar. Accounts of analogy in, for example, single case studies (e.g., Smeijsters, 2005) might occur out of these emotional analogies. However the possibility of observer bias and vulnerability to the (psychological) interpretation of the therapist should be kept in mind as well. There is also a chance of the patient playing up to the therapist, because he wants to be 'healed'.

Beside the discussion and conclusion on analogy, the results of this study can be important for treatment as well. When investigating the outcomes of the scatter plots and the missing data from the sociotherapy, music therapy seems to produce far more (nuances in) observations of coping skills. Especially positive and avoidance coping skills are more often applied and observed during music therapy. This could indicate that there might be more points of departure for treatment of these coping skills during music therapy than at the living unit. This underlines the necessity of multi-modal treatment approach. If certain behavioral reactions can not be observed (and therefore not be influenced or treated) at the living unit, it might be possible to start to work on them during music therapy and vice versa. A careful suggestion might be to assign an aggressive patient first to music therapy to work on his aggressive behavior, because there he may be only mildly overtly aggressive. Deriving from this research is a possible earlier referral of forensic psychiatric patients for music therapy. These patients tend to react less aggressive when confronted with anger control problems during music therapy than on the living unit.

Obviously research in this area should be broadened to further investigate the theory of analogy. The population of forensic psychiatry is very heterogeneous. It would be interesting to find out if analogy can be observed with people with a more similar disorder or with less social desirable behavior or more focused on the goal of their treatment. Thus, research can be expanded with more subjects; focus on other behaviors; social or emotional reactions can be observed and compared. To compare outcomes of observed behaviors with those perceived by the patients might be interesting to investigate as well.

Chapter 4

A music therapy anger management
program for forensic offenders



Abstract

This chapter describes how the treatment of anger management can be embedded in a music therapy setting. A music therapy program is presented designed to treat forensic offenders with disturbed anger regulation and personality disorder(s). The program builds upon current insights in anger management and focuses on how music can increase the effectiveness of this kind of program. Since music enables the patient to experience emotions of anger in a controlled setting, the patients' awareness of their anger disorders is improved. At the same time music affirms a safe distance between therapist and client. The program is illustrated with three case studies.

This chapter is an updated version of:

Hakvoort, L. (2002). Music Therapy Anger Management Program For Forensic Offenders. *Music Therapy Perspectives*, 20(2), 123-132.

A music therapy anger management program for forensic offenders¹

This chapter describes a music therapy program developed to help forensic patients cope with their anger. The program is designed for a forensic setting and applied by a number of music therapists in forensic psychiatry. However, more clients suffering from disturbed anger regulation can benefit from the program.

4.1.1 Mentally disturbed offenders in the Dutch justice system

It is necessary to give a description of the Dutch system of mandatory nursing and the position of forensic offenders to enable non-Dutch readers to have a better understanding of the background of the program. In the Netherlands, a judge can order a judicial inquiry into the mental state of someone suspected of committing a violent crime. If the suspect agrees to participate he is screened and observed by a district psychiatrist, or referred to a special observation clinic. The observation team, or psychiatrist, addresses the following three questions: (a) what psychological or psychiatric disorder does the suspect have, and was he legally accountable, during the crime? (b) is the suspect dangerous to society? (c) is there a chance of relapse into the same kind of violent crime? When the suspect is found to be guilty but not (or only partly) legally accountable he can be sentenced to imprisonment followed by mandatory nursing. When a forensic offender has served his time in prison he is assigned to mandatory nursing and treated as a forensic patient.

Mandatory nursing is put into effect in one of thirteen specialized forensic clinics; two are state clinics and eleven private ones (Ministry of Justice and Security, 2013).² The forensic patient is not obliged to participate in any treatment because he is subject to mandatory nursing and not mandatory treatment (Van Marle, 2002). This implies that he has to eat and drink. Besides he might have to take medicines if he is really violent.

The patient cannot be forced to partake in any kind of treatment program, such as psychotherapy, music therapy or behavioral training, nor in recreational activities or labor. If a patient keeps refusing to cooperate in the treatment he could be imprisoned in a long-stay-unit of a forensic clinic for the rest of his life. For this reason most offenders cooperate, even though the treatment might take considerable time.

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² The forensic offender is released from mandatory nursing only then when the treatment-team deems him no longer dangerous. Every one or two years a judicial review evaluates the progress of treatment. At that moment the judge can end the treatment officially (Van Marle, 2002).

Forensic patients form a very heterogeneous group, suffering from various disorders, such as schizophrenia, psychotic episodes, attention deficit hyperactivity disorders, borderline personality disorders or other types of personality disorders, sometimes combined with mental disability (Van Gemmert & Van Schijndel, 2011). This heterogeneous mix of background and psychopathology forces the staff of a unit or clinic to create or apply specialized treatment programs. These programs are built to enhance the patients possibilities and diminish limitations that could lead to re-offense, according to the so-called risk-need-responsivity model of Bonta and Andrews (2007) and the Good Lives Model of Ward and Brown (2004). There are for example programs focusing on group-treatment, dependence related problems, behavioral treatment, psychodynamic treatment, for mentally challenged offenders and psychotic offenders.

4.1.2 *The observation process in forensic clinics*

At the clinic a forensic patient is observed for a maximum of three months. He is offered a recreational and therapeutic observation program and is observed during his daily activities and therapies. A patient is observed for his risk-need-responsivity factors (Bonta & Andrews, 2007). During different activities the patient is observed to assess what behavior or cognitive-patterns he uses that might lead to the risk of re-offending. Besides he is observed for his responsivity to which approach, therapeutic alliance or method does the patient react most favorable. After the observation period an interdisciplinary treatment team formulates possible risks and further psychiatric diagnosis, as well as the needs or skills which need to develop, and recommend further treatment-pathways (Lucker, Bruggeman, Kristensen, & Hochstenbach, 2010). The interdisciplinary team consists of a treatment coordinator, a psychologist, a psychiatrist, a unit head, a patient's mentor, a social worker, sometimes expanded with a music therapist, a psychomotor therapist or an art therapist.

The main treatment goal for all patients is to minimize the offence-behavior and to prevent relapse (Douglas Broers, 2004). In most cases this means that the patient has to accept his personal limitations, understand his risk factors, has to optimize his capabilities (need factors) and to expand his possibilities. The general goal of the treatment is to teach the patient to develop his skills on a social, emotional, behavioral, or even biological

level. Because each patient is characterized by his own personal offences, background and disorders an individual treatment program is formulated. The individual treatment program focuses on the need-factors including: building anger-management and coping skills, problem-solving skills, self-management skills and enhancing alternatives to drug abuse (Andrews et al., 2006).

4.1.3 *The role of music therapy*

In many forensic clinics, music therapy is a recognized part of the therapeutic treatment program. Most of the time the main goal of music therapy is no different from that of other therapies (for a different view read Hervey & Odell-Miller, 2012). Music is used as a treatment-instrument to change those behaviors of a patient that have led to the assault (Hakvoort & Bogaerts, 2013). The task of the music therapist is twofold. First, the music therapist makes an assessment of the music therapy treatment that is best suited for a particular forensic patient, according to the risk-need-responsivity model. Second, individual music therapy is offered with regard to a specific problem area. Sometimes, the therapy is processed verbally and other times more musically. An effective therapy needs a proper balance between the containment in the musical environment and the confrontation.

The literature either addressing music therapy and forensics or music therapy and a specific angermanagement program has increased positively. Since the article on music therapy anger management program in forensic psychiatry was published (Hakvoort, 2002a), many music therapy articles mention the topic of anger management and forensic psychiatric patients in one or two sentences in their text. Most music therapists apply a goal-oriented or cognitive behavioral music therapy method within forensic psychiatry. So do Crimmins, (2010), Fulford (2002) and Hakvoort (2002a) focus (direct or indirect) on aggression and anger management, Hoskyns (1995), and Watson (2002) on building self-management skills, Rickson and Watkins (2003) and Wyatt (2002) gear their music therapy treatment towards problem-solving skills, Rio and Tiney (2002) towards social skills, Zeuch (2001, 2003) and Zeuch and Hillecke (2004) towards conflict-management skills and Dijkstra and Hakvoort (2006, 2010), Hakvoort (2007a, 2007b), and Reed (2002) concentrate on coping skills. Because one of the major risk factors in forensic psychiatry is addiction, some music therapy programs help patients to

apply alternative behaviors to drug abuse (Dijkstra & Hakvoort, 2010; Gallagher & Steele, 2002; Silverman, 2003, 2010). In Great-Britain music therapy with forensic patients seems to be offered from a different approaches. Maguire and Merrick (2012) describe a recovery approach; Compton Dickinson (2006, 2012) a cognitive analytic psychotherapy one and Sloboda and Bolton (2002) an psychoanalytic approach using music, all focusing on the growth of patients through a musical therapeutic relation.

Although limited, evidence seems to support the use of music therapy in forensic psychiatry (Daveson & Edwards, 2001; Drieschner, 1997; Thaut, 1989a, 1989b, 1992). The results of research is limited and are not conclusive at all.

Only six articles were found in the literature addressing anger management in the music therapy as their main topic. For patients with posttraumatic stress disorder Slotoroff (1994) describes drumming techniques for their assertiveness and anger management. Meeker (1985) uses the expressive arts (in general) as a tool for dealing with anger. Montello and Coons (1998) compared the effectiveness of passive and active forms of music therapy for preadolescents with emotional, learning and behavioral disorders. Choi, Soo Lee, and Lee (2010) found that specific music interventions such as expressing oneself and making music together, significantly diminished aggressive behavior for aggressive children. They only marginally address the topic of anger management. Sung and Chang (2005) as well as Ledger and Baker (2007) described a decline of agitated behavior in older people using music therapy. However, none of these articles discusses aspects with accordance to a forensic population. Crimmins (2010) investigated musical assignments applied by music therapists for treating aggression problems. However, the results do not shed any light on the actual process or program to change behaviors. The article coming closest to the topic of anger management in forensic psychiatry outer verbal therapy is written in relation to art therapy (Breiner, Tuomisto, Bouyea, Gussak, & Aufderheide, 2012).

To provide the reader with some insight a case of a patient is presented in order to give a more detailed description of the specific role, that music therapy might have in the treatment of forensic patients. The case provides the backdrop for the discussion of the anger management program and is written in the first person to provide a more personal account of the events.

4.1.4 Case example: John

“John” was a thirty-nine year old Caucasian male, who looked at least ten years older. He was diagnosed as having three personality disorders: a dependent, an obsessive-compulsive, and an antisocial disorder (APA, 2000, Diagnostic and Statistical Manual of Mental Disorders). He was convicted for kidnapping, sexual abduction, rape, and attempted manslaughter of a fifteen-year-old girl. John was recommended for music therapy in order to work on his compulsive behavior and obsession with control. These problems seemed closely related to his offense. The main objective of the therapy was to increase his self-regulation skills. He had to learn to express his emotions and to set clearer boundaries. The therapy started with nine sessions.

We agreed on playing the piano. He wanted to improvise with me on the same piano. He was only capable of partly imitating my simple improvisation. During a subsequent improvisation I used more and more keys so as to gradually reduce the space left for him on the piano. He did not oppose me musically or physically. He told me that he had become afraid and that the situation had summoned up bad memories of his childhood. I urged him to link his emotions to those of his victim during the offense. John indicated that, for the first time since the offense, he could envision something of her fear. In a reiteration of this improvisation he resisted me strongly and did not allow me to use more than half of the piano keyboard. The confrontation, in which he felt forced to set a clear boundary, made him very tense and unable to relax. From these two experiences John recognized two things. First, he always handled criticism with extreme, recalcitrant behavior. Second, he experienced extreme feelings of revenge when criticized.

John was extremely difficult to influence. He usually played the same tune in the same volume and beat, regardless of whether I played softer, louder, faster, slower or even in a different pitch. Whenever he played louder or more energetically he referred to this as anger, although it sounded as rigid and inhibited as ever. When I asked him to play something different, his improvisation was chaotic, lacking any musical expression. He felt as if I had abandoned him. The moment I gave him some advice concerning his rhythm, he played that rhythm and did not change it again during the entire improvisation. The same happened with advice concerning melody and accompaniment. The next step was to

offer him a musical structure to practice flexibility. We used a blues scheme as the underlying pattern for a five-note improvisation. As expected, he was able to play along with me as long as I repeated the accompaniment exactly. Under that condition, he could even improvise within the five-note scale. However, he became irritated as soon as I deviated from the expected accompaniment. Any variation put him emotionally so out of balance that he blamed me bitterly for it.

After a couple of sessions he told me that he hated the piano because he was not able to make it sound the way he wanted. He decided to take up drumming again, which he had done as a teenager. During the following sessions he played the drum-set as mechanically as a robot. He told me that he loved to play music, but felt inhibited whenever confronted with an instrument. He was afraid to make mistakes. As a consequence, he played even more restrictedly, and got himself into a vicious circle. Because of his bitterness and his projected anger, he was afraid of rejection by me and of being exempted from music therapy. This resulted in significant anger towards himself and towards me.

In conclusion, difficulties in expressing anger and tension were clearly audible in John's musical improvisations. He reacted emotionally to my musical confrontations. A result of the treatment could be the development of an ability to react musically as well. Because of a positive perspective in this direction, John was recommended for the music therapy anger management program.

4.2 Anger management

Anger is often defined as an aversive emotion that can involve passive resistance (Fernandez, 2013) as well as active approaches (Potegal & Stemmler, 2010). Anger is supposed to be one of the dynamic risk factors for forensic psychiatric patients (Douglas & Skeem, 2005). Anger has paradoxical effect on the physical, cognitive emotional and behavioral functioning of people (Lowenstein, 2004; Potegal & Stemmler, 2010). Anger can arise when a person appraises a reaction of someone else as wrongdoing and as a result shows a tendency to level out or counter this wrongdoing (Fernandez, 2013). Anger can create physical reactions problems in breathing and movement, cognitive reactions such as an increased (but narrowed) awareness or behavioral reactions such as aggression. Aggression can help an individual

to defend himself, but it can also be used to destroy his environment. Tension, irritation, and anger are emotions common to everyone. They can be linked with or triggered by other emotions such as fear, feelings of incapability, feelings of rejection in varying degrees. Each of these emotions can have a positive as well as a negative influence on an individual's functioning and behavior (Lowenstein, 2004). For example, the fear to fail or to be defeated can improve a person's performance, so the tension aroused by the fear can raise a person's achievement level. On the other hand these feelings may cause a person to freeze up or may make a person aggressive. In other words, these emotions can have a major physiological and perceptual impact, with a positive or negative influence on our cognition and behavior (Potegal, & Stemmler, 2010).

Anger can be evoked in specific situations, which differ across individuals. From childhood onwards we learn to apply our own coping strategies in stressful situations. Unfortunately not everyone learns useful, positive coping mechanisms. Anger occurring as a reaction on wrongdoing provokes behavioral reactions, varying from accepting, seeking for help, through resistance, denying, ignoring, to aggression or assault (Fernandez, 2013). One patient may become depressed because he internalizes his stress or anger and torments himself with it. Another patient may use drugs in order to make his anger more bearable. A third patient might set fire to his house as a ritual to destroy his negative feelings and may become a pyromaniac. Under certain circumstances impulses and tempers overrule cognitive and emotional functioning (Potegal, & Stemmler, 2010). Under extreme circumstances such impulses and temper may ultimately result in an individual's incarceration in a correctional institution. Probably all forensic patients have disturbed stress and anger coping-mechanisms. Resulting in aggressive, sensation-seeking or criminal behavior. Their disturbed anger management developed over many years. The way they handle their distress or feelings of wrongdoing has affected them to mistreat others in a severe manner.

4.2.1 Anger management programs

Deffenbacher (1995) proposes an elaborate "ideal treatment package" for adults with anger disorders. In the ideal treatment of adult anger problems, the therapist and client form a strong therapeutic alliance and engage in a careful, collaborative as-

assessment, in which anger is identified as a significant personal problem: treatment strategies are then developed and tailored to those elements thought to be primary for that client. That is, client and therapist work together to define anger as a primary concern, and then focus on intervention to alter critical elements of the anger problem. In summary, "the ideal treatment of adult anger problems is a highly individualized assessment and intervention process for anger issues that are owned as a problem by the client." (p. 152)

Deffenbacher acknowledges that few patients are able to define anger as their primary concern. Especially in a forensic setting, the insight of patients in their anger regulation is limited. The first step towards the 'ideal' treatment is to increase a patient's level of awareness through his experience of anger. Deffenbacher (1995) suggests multiple elements of a treatment package: awareness and self-monitoring; stimulus control and response disruption; increased tolerance for and endurance of difficult anger-engendering situations; relaxation coping skills; skill-enhancement; and humor. Important elements for each anger management program, whether cognitive behavioral or music therapy (Howells, & Day, 2003).

There are many different anger management programs available, based on various treatment-concepts. They mainly build upon the first training for adolescents as constructed by Glick and Goldstein (1987). There are many anger or aggression management programs by now specially designed for offenders (e.g., Barto-Lynch, 1995; Goldstein, 1997; Goldstein, Glick, & Gibbs, 1998; Hollin, 2004; Hornsveld, Nijman, Hollin, & Kraaimaat, 2008; Howells, 1998; Kassinove, 1995; Novaco, 1997; Renwick, Black, Ramm, & Novaco, 1997; Walker, & Bright, 2009; Watt, & Howells, 1999). However research into these programs and meta-analyses of them are not conclusive about the 'what works' principles of anger management training. In a meta-analysis of treatment strategies for adult anger disorders, Tafrate (1995) concludes that the most effective anger management programs target self-statements, physiological arousal, and development of behavioral skills, such as problem solving skills. In a review of meta-analyses Glancy and Saini (2005) mainly addressed the limitations of each study. Leading to the conclusion that there are effects, but the role of the chosen treatment remains uncertain, due to limited research. Landenberger and Lipsey (2005) found in

the same year that anger management when applying a cognitive behavioral approach and a rigor treatment design offered significant improvements.

All articles and books reviewed conclude that one cannot change a disturbed anger coping-mechanism overnight, especially not when dealing with offenders with mental health issues. This conclusion furnishes important critique on the effectiveness of anger management programs (Glancy & Saini, 2005; Howells, Day, Bubner, Jauncey, Williamson, Parker, & Heseltine, 2002; Koerner, 1999).

So the music therapy anger management program offers a further elaboration on the existing anger management programs, and is built upon the fundamentals of Glick and Goldstein (1987). Goldstein (1997) and Goldstein, Glick, and Gibbs (1998) describe a process-model for the training of anger control, which entails various, sequential steps: (1) recognition of the "arousal-heightening" interpretation of external stimuli; (2) recognition of heightened affective arousal; (3) enhancement of effective communication; (4) management of contingencies; (5) reduction of pro-social skill deficits; (6) improvement of pro-social values; and (7) training of cognitive and academic skills. Recognition of affective arousal however is not enough. Patients learn more if they can actually experience these emotions. All these important elements are embedded within the present music therapy anger management program to offer the best possible results (e.g., Andrews et al., 2006).

4.2.2 *The added value of music*

What could music therapy add to the existing anger management programs? In contrast to prevailing therapies, the treatment is not only verbal but also musical. Music is strong in stirring emotions and cognitions (e.g. Gabrielsson & Lindström, 2010; Koelsch, 2005; Scherer & Zentner, 2001). Music can bring emotions like irritation or rage to the surface, whether or not provoked. It can evoke forceful reactions that are clearly audible and/or visible (Hakvoort & Bogaerts, 2013).

The advantage of music as a tool for anger management, compared to verbal techniques, is that music is easily accessible to patients, it appeals to their 'responsivity'. Research of Hubbard and Pealer (2009) shows that this responsivity is an important factor in the reduction of antisocial attitudes or anger of offenders

(Bensimon, Einat and Gilboa, 2013). Moreover, music figures in patient's favored stories about idols and big money-central in the imagination of some of the forensic patients. For these reasons, many forensic patient are willing to participate in music therapy (e.g., Hakvoort et al., 2013).

For forensic patients, their handling of anger can be a subject charged with tension. A safe, musical environment is therefore needed during therapy to explore the patient's behavior and emotions linked to his anger; the anger that might be closely related to his offence. To optimize problem and resource activation of the patient, the therapist needs to keep patients in emotional approaching behavior (Gassmann & Grawe, 2006). The role of the therapist is to provide a containing musical environment, which makes a patient feel safe (Marshall & Serran, 2004). Without the containing musical environment a patient will decline to explore his emotions and refuse to express himself musically or verbally.

On the other hand, without any trigger through musical confrontation it is difficult to explore feelings of anger and alter or discuss them. Musical confrontation takes the form of interventions, such as contrasting, intervening, splitting, and shifting (compare improvisatory techniques in Bruscia, 1987). In situations where the patient experiences a loss of control, powerlessness, or rejection, these interventions provoke irritation and anger. The musical confrontation is the careful combination of the situation with a specific musical intervention (Hakvoort & Bogaerts, 2013).

The behavior of the patient and his cognitive reactions to music can be observed and reported. For example, anger is usually immediately audible in the tempo of a patient's music, in a change in dynamics, the use of truncated notes or the patient's inability to continue his own performance. Emotions are often also visible in the patient's posture while making music. The observed behavior provides sound reasons to suppose that music therapy can contribute to the treatment of forensic patients with a disturbed anger regulation (Pool & Odell-Miller, 2011). The musical behavior can be analyzed and subsequent interventions take place within the format of musical improvisation (Bruscia, 1987).

The music therapy angermanagement program helps patients to musically 1) become aware of the causes of their anger (step 1 and 7 of Goldstein, Glick & Gibbs, 1998), 2) discern the first symptoms of anger (step 2 of Goldstein, Glick & Gibbs, 1998), 3) acquire new coping-strategies (step 3 through 6 of Goldstein,

Glick & Gibbs, 1998), and learn to apply their new coping skills in everyday life. In the first step patients are made aware of their anger. They first experience and recognize the symptoms of anger within their body while they are listening to music or while improvising. In the second step, patients explore what situations trigger their anger. During musical improvisation they are confronted with moments of defeat, fear, powerlessness, rejection, or separation. According to the literature this is often a missing step in anger management (Glancy & Saini, 2005; Glickman, 2011; Walker & Bright, 2009). In the third step, the patients train new individual coping-mechanisms (sometimes using music as a tool) to cope with their anger. With these new skills at hand a patient is able to practice his anger management within the safe environment of the music therapy setting. The music therapist in close collaboration with the treatment staff reinforces the transfer (application and utilization of the newly acquired skills) to daily life at the unit. If the patient needs help with a specific problem-area, additional music therapy sessions can be offered.

4.3 Basic prerequisites of the program

There are many prerequisites according to the literature to meet the criteria of a successful treatment program in forensic psychiatry. Of course the music therapy anger management program meets the three principles (risk, need and responsivity factors) of effective treatment (Bonta & Andrews, 2007; Smith, Gendreau, Swartz, 2009). The treatment (1) is offered to higher risk offenders in forensic psychiatry (the risk principle); (2) it targets the criminogenic needs of the patients (the need principle), anger and aggression regulation problems, limitation in coping skills; and (3) it employs a cognitive behavioral treatment program considering a patients characteristics when deciding about the best manner to deliver the program (the responsivity principle). To optimize a therapeutic integrity (Smith et al., 2009) music therapists applying this program receive a special training and are supervised when applying the music therapy angermanagement program. It also meets the ten points of accreditation criteria for offending behavior programs (Hollin & Palmer, 2006).

Beside these criteria the music therapy anger management departs from five basic points that fit in the daily practice of treatment in forensic psychiatry (Lucker et al., 2010). The music therapy program should: A. be a short-term treatment, B. have

a musical surplus value, C. pay attention to three polarities of forensic patients, D. be flexible, and E. have clear-cut criteria for indication.

4.3.1 Short term treatment

In the Dutch mental health care system there is a trend towards short-term treatment and for music therapy there is no exception. Treatment should also be as focused as possible, i.e. aimed at one specific goal. This implies that the focus of the therapy is upon one or two problem areas of a patient. The problem areas must (a) be recognized by the patient and the staff as the most important causes for the offense, (risk factor), and (b) present themselves audibly or visibly in the music of the patients (Hakvoorts & Bogaerts, 2013). The treatment goals and objectives of the music therapy are formulated in close collaboration by the patient and staff. The above procedure is always explained to the patient. The program takes about twenty sessions, which is short-term relative to the average of ten years within the Dutch forensic system (Van Gemmert & van Schijndel, 2011). As soon as the music therapy anger management program is completed a new period starts in which the patient can practice with his new skills of anger regulation: the transfer period. Other therapies are offered, possibly art therapy or psychotherapy. In a third period the music therapy anger management program can be repeated, adapted to the new needs of the patient.

4.3.2 Musical surplus value

The musical surplus value consists in helping the patient to acquire emotional experiences through music. Study by Van Goethem and Sloboda (2010) showed that music could regulate affect. Music creates a distance between the actual emotion and those provoked by the music (Juslin et al., 2010; Koelsch, Fritz, Cameron, von, Müller, & Friederici, 2006; Konečni, 2010; Konečni, Wanic, & Brown, 2007). Gabrielsson and Lindström (2010) found that strong experiences in music could change cognitions of the listener. In the music therapy management program there is a balance between emotion and cognition, and between the musical experience and the learning of new skills. Music can reinforce or help expand interaction skills, as well as focus shifts (Thaut et al., 2009). Improvising music together with the therapist, or with fellow patients, can help a patient to practice and experience oth-

er forms of interaction. Because the confrontation in therapy with failure and painful emotions occurs through music, it tends to be less threatening for the patient (Hakvoorts & Bogaerts, 2013). The moments of anger are easier for a patient to handle. These musical interventions in anger regulation clearly distinguish the program from other therapeutic anger management programs.

Example: John. John said he expressed his anger any time he played loudly. To me, as a listener, it only sounded tense and rigid. One session I asked him to play the electric guitar. As soon as he started to play he was baffled by its biting sound. His improvisation sounded sneaky and aggressive, leaving me no room to accompany him or join him in his aggressive improvisation. He played for over thirty minutes, hurting his own fingers. He later confided that this was the first time he really expressed his (overtly masochistic) feelings of anger.

4.3.3 Three polarities

Therapists who work with a forensic population encounter polarities within the patients' behaviors. Hoskyns (1995) provides a very good description of this phenomenon, which derives from the psychopathology of forensic patients. To make sure that the anger management program fits this characteristic of the population (the responsivity factor; Hubbard & Pealer, 2009; Looman, Dickie, & Abracen, 2005) it takes into account three major polarities: (a) safety versus confrontation, (b) innovation versus stabilization, (c) control versus autonomy.

First, there is the issue of safety versus confrontation. Despite all the safety equipment in and around the music therapy room, the best protection against physical violence is a balanced rapport with the patient (Ross, Polaschek, & Ward, 2008). To realize this rapport the music therapist starts with an introduction in which a bond is carefully built. Being friendly will not change the patient's behavior (Marshall & Serran, 2004). The therapy needs to incorporate confrontational moments, sometimes purposefully provoking irritation or anger (Gassmann & Grawe, 2006). In a population of people with a disturbed anger regulation, this can be a risky thing to do. The program therefore needs to come as close as possible to the patient's limits. The central idea is that as long as the patient is confronted within the music, the music can help to keep a distance. A music therapist is able to use dif-

ferent musical and verbal techniques to deal with the aroused anger (Jackson, 2010). The patient can project his negative feelings onto the music instead of onto the therapist. This assures the therapist's safety and comforts the patient, at least partly (Hakvoort & Bogaerts, 2013). For this reason, the confrontational and stressful moments are planned during musical improvisations. In addition a lot of humor is used. This makes moments of feedback and evaluation more bearable to the patient.

Example: John. During the session following a profound confrontation (a rejection), John refused to make any music at all. He felt too tense. He assured me it had nothing to do with me as a person. I decided we should listen to music, which we both selected. Then we discussed our feelings or memories triggered by the music. All John's memories were linked to the rejection and to his feelings of being left alone. He clearly indicated that he was afraid that I despised him and would terminate the music therapy. At the end of the session I asked him what he thought about my choice of music. He told me that it was pleasurable, but difficult to grasp. This interpretation gave him the feeling that he was accepted, but that he had to become active again.

Secondly, there is the problem of innovation versus stabilization. The treatment of forensic patients in music therapy demands exploration as well as stabilization (Annesley & Jones, 2012). The music therapist has to create a situation in which the patient can musically discover his tension, stress, anger, irritation or even aggression. Subsequently, he needs time to accept and internalize these discoveries before he can change them. If too many new experiences or emotions are forced upon a patient he is not able to internalize them and will not benefit from the program. On the other hand, if too few new experiences are offered or if these experiences are too predictable, the patient will escape the therapeutic confrontation. He will not gain from the program. The consequence is that the program should be both instructive and confrontational at certain moments, which should be followed by a period of practice, rehearsal and stabilization.

Example: John. After seven sessions John thought he understood the format of the therapy. He learned to react to my musical provocation. He knew that he would get irritated and had to

express his irritation musically. In session seven I changed roles in order to confront John with a different trigger of his anger. I played the xylophone while he played the djembe (African drum). As soon as I was satisfied with the melody I was playing, it was agreed that he should ask whether he could join in. However, he was only allowed to join in if I agreed. I rejected his request to accompany me. John was shocked. He felt highly irritated, which was immediately audible in the following drumming assignment. When I asked him to stop, he refused.

I let him play a couple of minutes longer and then helped him musically to end his drumming by playing more and more slowly. Only after listening to music John acknowledged that he had been very angry with me after being rejected. He could even link the rejection to his personal situation prior to his offence.

Thirdly, there is the issue of control versus autonomy. Forensic patients have severe problems controlling their anger and their behavior. However, they resist the strict control of the justice system and fight for their own autonomy (Annesley & Jones, 2012). Most forensic patients test the limits of their social environment and at the same time they are afraid to lose control. Obviously, these patients will resent too strict a structure. However, if they are given too much autonomy, they will avoid as many confrontational situations as possible. In order to ensure that the program will have an added therapeutic value the patients are handed an outline of the topics to be addressed and the goals to be aimed at. The handout, displayed in Table 4.1, gives the patient a clear direction about the general structure of the program. The outline provides enough degrees of freedom to assure that individual differences and needs can be taken into account.

4.3.4 Flexibility

The program has to be flexible within its parameters in order to give way to the polarities. Although the program is clearly structured it has to be flexible enough to include differences among patients, to appeal to their responsivity. In each session the goals and objectives of the patient are assessed and explicated (Thaut, & Wheeler, 2010). This guarantees that the patient is aware of the course of the therapy and is able to put the events into the broader perspective of the program. The constant monitoring of goal attainment enables the therapist to verify when the therapy

Table 4.1. Handout for patients: The music therapy anger management program

	Program
Phase 1 <i>Introduction</i>	Explanation and discussion Getting to know one another Listening to pleasurable music and annoying music Playing pleasurable and annoying music: What is the difference?
Phase 2 <i>New Skills</i>	Training new coping skills: Asking for help Unwinding while listening to pleasurable music Unwinding while making music Expressing anger Terminating anger provoking situations Discussing patterns in anger
Phase 3 <i>Assisted application</i>	What irritates you? What life-events fit which music? What makes you angry? Applying new coping techniques, with assistance
Phase 4 <i>Application</i>	Practicing to apply new coping techniques Practicing to stay relaxed, no matter what happens Expressing anger in a constructive way
Phase 5 <i>Termination</i>	Answering a few final questions Discussion about the outcome(s)

should be terminated. Termination of the therapy happens when the goals are met or if there is no progress after a number of sessions.

Example: John. After nineteen sessions John was able to indicate what events triggered his anger (especially situations of losing control and rejection). He enjoyed situations in which I made a musical mistake. He had learned to be relaxed for a longer period of time, sometimes up to six minutes, before a trigger-situation in music therapy would get him out of balance. He could ask me to stop the improvisation if he became tense. He could apply a number of his newly acquired techniques at the unit. The moment he became tense or angered he experienced a sadistic feeling within himself. Since it was not possible to address his sadistic feelings in the music therapy anger management program, we terminated the music therapy.

4.3.5 Clear-cut criteria for indication

The program needs clear-cut criteria for indication (Hollin & Palmer, 2006; Polaschek, 2011). The psychopathology of the forensic population makes it unrealistic to expect that all patients will benefit from this music therapy program. For example, patients with psychotic episodes are not able to stand the pressure of the confrontational situations, and their condition could deteriorate as a result of this therapy. Patients who could benefit from this anger management program are those with at least one personality disorder. Moreover, the patient must be able to reflect on his behavior, at least to some degree, and should not show sudden, uncontrolled violent outbursts. A patient's affinity with music and with musical improvisation might increase the responsibility for the musical part of the program. Playing and improvising on different instruments is obligatory from the first phase onwards. Finally, the patient should participate voluntarily to guarantee maximal motivation.

Example: "Bill." One of the first patients in this program was Bill, a nineteen year old. Bill had indicated that a major problem was his anger regulation. Under the influence of ecstasy he was quickly angered and he usually unwound by listening to hardcore music or using extreme force against other people. He was assigned to music therapy. He was reluctant to participate and re-

fused to touch any instrument. He only wanted to partake in a receptive music therapy.

Bill clearly indicated that he liked all kinds of music a little bit. He only really preferred “Gabber”, a Dutch version of hardcore music, and “The Doors”. A tape was made containing samples of all his favorite music. The music helped him to unwind because it brought back good memories. After completing the first two phases of the music therapy anger management program, we encountered a major problem. Bill persisted in his refusal to touch any instrument. Active music making secures the music therapist’s safety. Bill agreed to think about possible further steps and the next session he tried to play an instrument. He warned me that he would stop as soon as any irritation occurred. After playing the bass-guitar and the drum kit it appeared not possible for him to enter Phase 3. His anger was too easily triggered and for this reason Bill never touched an instrument again. The therapy was terminated.

4.4 Music therapy anger management program

The music therapy anger management program is put down in writing in a music therapy manual with an outline of each session, its goals and objectives, obligatory and suggested musical assignments, a description of the therapist’s role and attitude and homework assignments. The general goal of the program is to learn how to regulate and control a patient’s aggressive impulses arising from increasing irritation and anger. At least two new coping-skills are practiced during the music therapy. For example the first skill can focus on relaxation (if possible with the help of music and relaxation exercises). The second one can be the expression of emotions (music can be a good tool for this; for example to rap, sing or scream, play an instrument, or dance to music).

The evaluative goal of the program is twofold. The program is successfully completed if the patient is aware of and able to handle at least two situations, which trigger his anger, and if the patient can apply at least two positive coping-skills to diminish his anger. Other outcome measures might be the increase of positive coping skills, decline of avoidance or negative coping skills and less dysfunctional or aggressive behavior in daily life (or at the unit) (Hakvoort et al., 2013).

The anger management program can be offered in small group

settings with a maximum of four patients or on an individual basis. All sessions take place in a music therapy room, equipped with a high quality stereo-set, at least five chairs and a variety of instruments, including drums, large percussion instruments, piano, guitars, keyboard, 2 drum-sets, microphones and a PA-system.

To obtain a better understanding of the existing knowledge, capabilities, and motivation of the patient, a pre-test questionnaire is filled out. To compare results of the therapy, the same questionnaire is supplied as a post-test. The questions of this questionnaire are:

1. Recall specific situations (at least one) that trigger your irritation, anger, or aggression.
2. Recall specific situations (at least one) that help you relax or unwind.
3. Recall music or musical styles (at least two) that annoy you.
4. Recall music or musical styles (at least two) that help you relax or unwind.
5. Describe a moment in your life when you felt really tense and how you subsequently relaxed.
6. When do you in general realize that you are tense or angry?
7. Where in your body do you first feel irritation or anger?
8. Think of a way (at least one) in which you can use music to minimize your anger.

Table 4.2 presents the outline of the objectives of the music therapy anger management program. It provides a general description of the objectives of the therapy process. Of course, it is not a static plan. The therapeutic process of a specific patient determines how many objectives can be achieved in a single session, and the depth to which an objective can be explored.

4.4.1 A toolbox of possible musical techniques

In each phase, a toolbox of specific musical assignments can be applied to help the patient meet the objectives. Phase 1 is the introduction to anger and coping-techniques. In this phase, receptive musical assignments are provided in order to provoke feelings of relaxation and irritation in the patient. Careful listening to different pieces of music is followed by a discussion of the musical aspects that provoke these feelings and their transfer to daily life. Active ones follow the receptive assignments; the pa-

Table 4.2. Outline of objectives of the music therapy anger management program

	Objective 1	Objective 2	Objective 3
Phase 1 <i>Introduction</i>	* Understanding of goal and theme * Creating treatment conditions	* Understanding what music can do to a person	* Practicing in musical improvisation * Recognizing polarities
Phase 2 <i>New Skills</i>	* Handling relaxation techniques through listening to music	* Handling expression techniques through musical improvisation	* Learning the sequence of adequate anger-reduction management
Phase 3 <i>Assisted application</i>	* Linking musical and situational anger	* Experiencing irritation (and anger) deriving from powerlessness ¹	* Applying new coping skills assisted by the therapist after experiencing irritation or anger
Phase 4 <i>Application</i>	* Applying one's (new) anger management techniques in situational stress (e.g. uncertainty)	* Applying one's (new) anger management techniques in situational stress (e.g. defeat)	* Applying one's (new) anger management techniques in situational stress (e.g. fear)
Phase 5 <i>Termination</i>	* Evaluating therapy		

¹ During the phase of confrontation the emphasis is on those stressors surrounding the offence of the patient and therefore differ per therapy (for example: defeat, fear, powerlessness, rejection, separation).

³ This assignment draws upon the results of Davis & Thaut (1989), Hanser (1985, 2010), Hanser & Coddling (2008), Thaut (1989a & b).

⁴ Sometimes popular music, like heavy metal or hardcore music, is more preferable depending on a patient's preference (Gowensmith & Bloom, 1997). In general, (modern) classical music lends itself better for the projection of feelings and memories than popular music, because it does not contain text. Sometimes (gangster) rap texts have proven to be very useful (Gardstrom, 1999).

tient is asked to improvise unwinding or annoying music. These assignments require that the patient learns to rap, sing or play some basic schemes, for example the schemes of "Knockin' on Heaven's Door" or "Blue Moon". Almost each session the patient is provided with homework assignments to make him aware of daily moments of anger arousing situations.

The second phase is to teach the patient how to unwind and express tension or anger. Again, a combination of receptive and active musical techniques is used. Coping techniques that are trained include: relaxation, asking for help, expression, avoiding, and termination. A suggested relaxation assignment is to let the patient bring in his preferred music and teach him physical relaxation techniques.³ The patient is asked to recall good memories while listening and verbalize them. In order to express tension or anger, a patient needs to be aware of the parts in his body where irritation and anger first appear at the surface. An active assignment is used to express anger. First, the posture and bearing of the patient when relaxed or tensed, is analyzed and discussed. Next, the patient is asked to play an instrument that fits these physical movements and body language evoked by tension. The piano, drum-kit and djembe are most popular, as well as rap and singing. A technique to assist the patient in setting boundaries and terminate a triggering improvisation is the following. The therapist plays the piano and the patient is asked to indicate when the therapist has to stop by simply saying, "stop". The patient does not know that the therapist leaves smaller and smaller physical room for the patient on the keyboard. The assignment is repeated a number of times. Again the patient is assigned homework exercises to practice new coping techniques in the confinement of his room.

The third phase aims at becoming aware of specific stressors. Tools for music therapy in this phase are focused on discovering at least two specific situations, which arouse anger. A receptive technique is to listen to music with possible anger-arousing effects, for example "Threnody to the Victims of Hiroshima" by Penderecki, the "Fifth Symphony" of Shostakovich, or 'Killing in the Name" by Rage Against the machine⁴. Subsequently, the patient is asked to describe life-events that fit the music. He has to mention at least one critical condition for the arousal of anger, present in all these events. Often powerlessness, extreme uncertainty, rejections, or defeat are mentioned as stressors. From the

receptive discovery of stressors the therapy moves to the active creation of those stressors. A useful technique to create uncertainty is to ask the patient to imitate the music of the therapist. The therapist continues to play even when the patient fails to follow. A tool for creating feelings of powerlessness and defeat is to play on two drums and proclaiming opposite texts. An example is “yes” versus “no”, or “I do” versus “you don’t”. After these experiences the patient is guided in applying his newly acquired coping techniques to calm down, handle the aroused anger or terminate the musical situation. Homework assignments focus on registering irritation and anger arousing situations at the unit.

The fourth phase applies the acquired coping techniques from the second stage in stressful situations with the therapist fading out of the process. Slotoroff’s (1994) drumming technique can be used. The patient starts playing whatever he likes. The music therapist joins in as soon as being allowed by the patient. After a while, the therapist starts playing his own rhythms or tunes. As soon as the patient gets irritated he must say, “stop” in order to make the therapist end his music. If rejection is a main problem for the patient, roles can be reversed. Things turn out to be worse for the patient: the therapist does not allow the patient to participate. During these assignments the patient can practice his coping-techniques (musical relaxation, the expression of anger, asking for help, or termination). In close collaboration with the staff, patients are guided to apply their newly acquired coping skills in everyday life when confronted with stress enhancing situations.

In the final phase of termination of the music therapy treatment program a verbal evaluation is made and the pre-test and post-test questionnaires are compared. In order to musically round off the therapy, an appropriate composition, fitting the patient’s problems, can be played live or on the stereo. The patient leaves therapy with a cd of this song.

The above techniques and assignments were partly elaborated in the cases of John and Bill. Below, a final case elucidates how the musical and verbal techniques help a patient to meet his objectives and goals in a practical application of the music therapy anger management program.

4.5 Case study: Paul

“Paul” was a thirty-four year old Caucasian man. He had been unemployed for a long period and suffered a childhood characterized by physical and mental abuse. He had no prior judicial encounters. Paul obtained unofficial custody of a 5-year-old boy. Under the influence of his girlfriend, a drug-prostitute, in the five days which followed, he abused the boy physically, sexually, and mentally, and caused the child to die. His offense was so brutal, that it was impossible for Paul to ever discuss it within a group setting. In everyday life at the clinic’s unit Paul was quiet and polite, but tense. He never showed any sign of the sadistic aggression that must have brought about his offense. Staff members felt that there was a disparity between his verbal and his physical expression. This made it likely that he was unpredictable, and some staff members feared he was a psychopath. Music had Paul’s major interest, and because it was so difficult to obtain a better insight into his thoughts and feelings, he was assigned to music therapy in order to work on his anger management. Paul was offered fifteen sessions in which he completed the program.

We took quite some time to get to know one another musically. We played the piano frequently and started to improvise more and more, using blues schemes and free improvisation. We searched for music that would put him at ease. We concentrated on the (high) location of his breathing and on his facial expressions. His eyes narrowed and his jaw tensed as soon as he felt the slightest irritation. I did not go over the physical relaxation techniques because his major problem seemed to lie in the fact that he was capable of physically hiding his anger. I wanted him to express his anger more clearly. He was becoming more skilled at physically identifying irritation. To this end we used many kinds of musical improvisation techniques to find how he could express himself. He improvised on the piano, using only a few notes, while I accompanied him in different styles. We improvised freely using the black keys. Then we discussed the improvisation and refined the improvisation on those aspects of form and expression, which were linked to specific emotions of anger. This took about six sessions.

After completing the first two phases I introduced the drums. Paul had previously avoided them because he hated the noise they made. Using the djembe, we started to drum together. Paul looked confused and irritated as soon as I changed even one

accent beat or note. He denied that he was irritated. I decided to play the drums and gave him a rotating drum, which would never match my instrument dynamically. He was instructed to tell me to stop as soon as my volume or rhythm did not match his, or whenever he became irritated. He never asked me to quit. He told me he was not irritated at all, although his facial expression clearly indicated the opposite. Then I changed the assignment. Paul was given five minutes in which he had to stop me at least three times. Now he stopped me within twenty seconds. During the former assignment he swallowed his agitation like he had at the unit. Now, when he was forced to express his agitation, he grew agitated even before this could be seen on his face. We discussed the result and Paul gave me his consent to evoke his anger and push him to a certain limit. We entered the third phase.

I undertook the new step in close collaboration with the treating psychiatrist. The staff assumed that the offense had occurred out of a feeling of powerlessness. I knew I was taking a risk. I would create a situation, such as that created by his former girlfriend; this would create the chance of projection or transference from Paul. Another possibility was the occurrence of dissociation or regression to the anger he was confronted with during his childhood. Nevertheless, we decided that the chance of me becoming a victim of his erupting aggression was small because he had previously victimized someone much weaker than himself.

The first session of the confrontation phase was a receptive one. First we listened to relaxing music, "Circles of Water" by Narada artists, and subsequently to a fear-provoking piece, "Threnody to the Victims of Hiroshima" by Penderecki. I asked him to imagine a life-event that would match the music. The first image that came to his mind on listening to Penderecki was that of a moment of abuse of himself as a child. I told him that I would play the music again. He smiled and said, "It's not my preference." I played the music again, clearly indicating that his message was an ambiguous one. He did not give me a clear yes or no, which was congruent with his smiling facial expression. The second time the music evoked images associated with his offense. The forceful music, combined with my declining his request not to play it, had recalled his experiences prior to the offense. Paul was not able to make this connection. Perhaps the connection was my interpretation. Paul did understand, however, that his

ambiguous message made others neglect his boundaries.

The next session we began drumming. I tried to provoke his anger again by creating another situation of powerlessness. I would stop playing only if he yelled, hit the drum (if obviously showing his anger), or when he clearly indicated to me that I had to stop. We started playing. At first nothing unusual happened. He joined me, then stopped, but did not tell me to stop. He just sat and waited. His eyes narrowed more and more. I did not stop because Paul gave me no clear signal. Suddenly, he burst out on the conga. He was not able to ask me to stop, but hit the conga with all his might. I helped him to cope with this situation by reducing my tempo and volume, within a couple of minutes. Paul followed my diminuendo. Afterwards he was too overwhelmed to speak and reflect on the experience. In order to give him time for his own verbalization, we hardly discussed what happened. In a psychotherapy session, he extensively discussed the aroused anger.

In the following music therapy session he was suddenly capable of showing his anger and irritation musically, by loud drumming, as soon as it appeared. Officially we now entered phase four, where the patient must practice his relaxation skills after becoming irritated. Paul had realized that acting-out his anger within the music "did not destroy his relationship with others", as he put it. After three subsequent sessions he was able to formulate what had triggered his irritation: the combination of the feeling that he failed to meet other people's standards, and his feeling of powerlessness if people neglected his boundaries as a result of his ambiguous messages.

Because he realized what had triggered his anger, it became more difficult to be activated. The moments that I was successful in provoking him, he used active drumming to express his irritation. However, he preferred to improvise on the piano to unwind when he was extremely tense. Paul indicated that he had benefited from the music therapy anger management program. On the unit, the socio-therapists reported that Paul had reduced his ambiguity and more clearly expressed himself. After the evaluation, in which we decided to explore his anger in direct relation to his offense, Paul was transferred to another clinic.

4.6 Discussion

Utilizing music therapy in order to provoke feelings of anger can facilitate general anger management programs for forensic offenders. Music provides the distance between the emotions of the patient and the therapist, necessary to guarantee their mutual safety. Music has proven to be a strong tool to make anger discernible in a patient. The musical distance helps the patient in learning how to adequately deal with this anger.

Experiences with the program suggest the importance of an accurate indication for the program. Not all patients are capable of entering the phase of confrontation. Those patients who completed the program all reported to have gained new insights and elaborated their skills to cope with anger. More applications of the anger management program need to be made, and possibly some revisions have to be made. Ultimately, large-scale research into the effectiveness of the program is preferable. In the meantime, other music therapists have added the program to their repertoire of methods to meet the needs of their client population so it might further prove its potential. The author is convinced that the program can be adapted for the treatment of other client-populations with disturbed anger management, such as psychiatric clients with personality disorders, and with adjustments in pressure and insight for mentally challenged and psychotic patients with problems in coping with their anger.

In the context of the forensic population, one should be careful to expect too much from the program. In forensic psychiatry, fake-adaptations frequently occur. Even when there seems to be a positive treatment effect, it might be caused by the desire of the patients to be released, rather than having obtained new skills. In the case of Paul, it still remains unclear whether he really unwound and relaxed during the last phase. Maybe he persisted in hiding the anger in himself. He did not even trust himself in this and has opted to stay in long-care. The effectiveness of the program can be more validly assessed with intrinsically motivated clients.

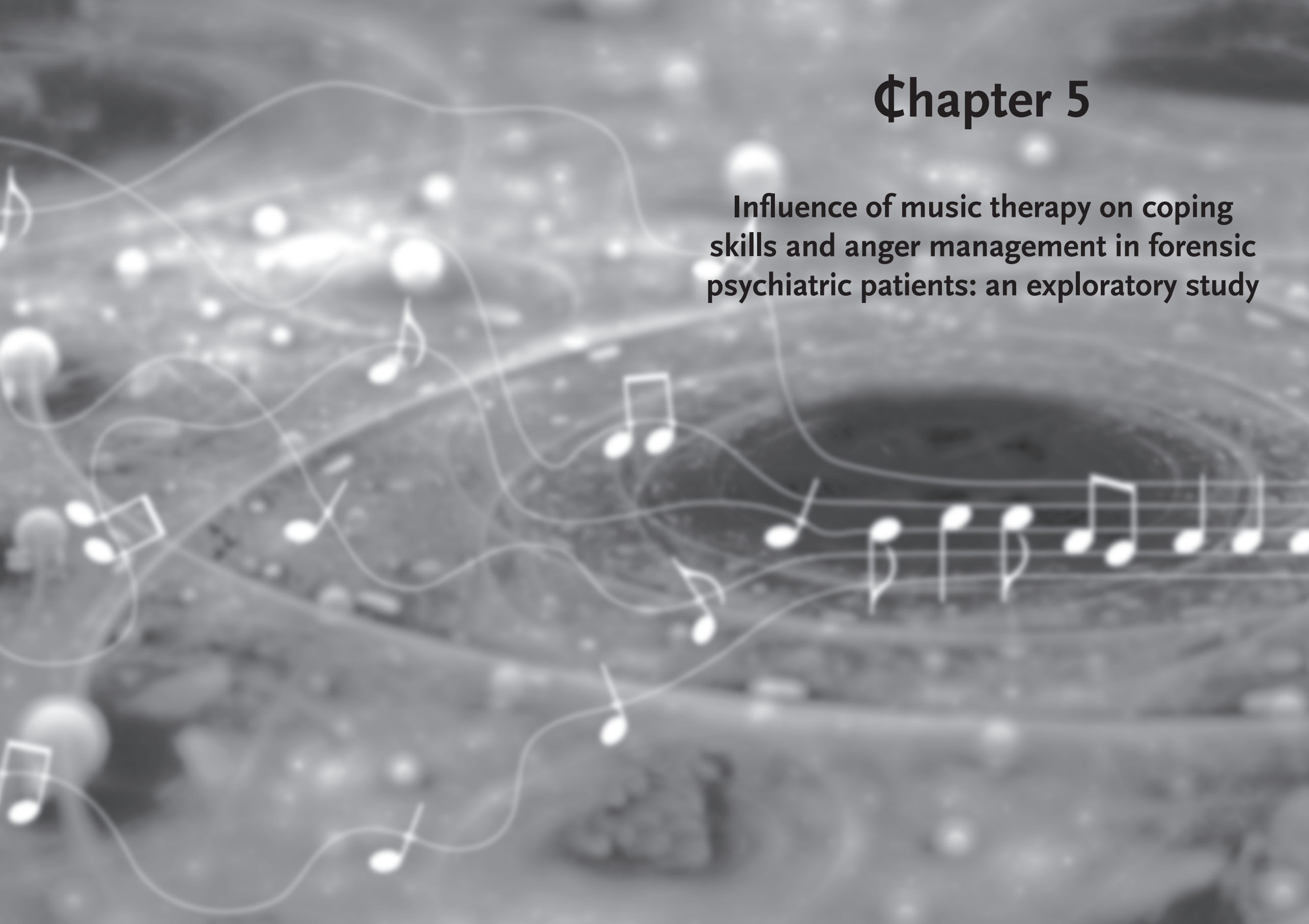
All the cases discussed, and all the revisions of the program are based upon individual music therapies. The program could be altered to a group setting. The advantage of a group setting is the fact that patients can learn from each other's experiences. In a group setting, the confrontational stage triggers more interpretations and observations of the anger of one patient. The

advantage of an individual therapy is the possibility to work more directly with the patient's specific offence. A drawback of an individual therapy is that it may provoke more direct anger towards the therapist and a stronger transference and countertransference between the patient and the therapist.

Finally, the phase of confrontation raises important ethical questions that have to be addressed carefully. What are the specific limits of a patient's confrontation? How should the therapist deal with exploring a patient's limits of tolerance? There is a chance that the therapist crosses the shallow border between a confrontation that enhances changes and learning and a confrontation that damages the patient even more. The music therapist can stay within ethical boundaries as long as one always works with the patient's consent, does not harm him physically or psychologically and is supervised in the process of applying this music therapy anger management program.

Chapter 5

Influence of music therapy on coping skills and anger management in forensic psychiatric patients: an exploratory study



Influence of music therapy on coping skills and anger management in forensic psychiatric patients: an exploratory study¹

¹ The authors want to acknowledge M. Groen (FPC Oldenkotte), D. Kruidhof (FPC de Oostvaarderskliniek), G. Roefs (FPC Kijvelanden), E. Smit and M. van Veen (FPC Veldzicht) for their knowledge, skills, time and effort as music therapists in this study.

Although there is growing research in the field of forensic psychiatry, greater improvements and increased scientific understanding of specific treatment modalities for forensic psychiatric patients are necessary, especially regarding less conventional treatment modalities. Music therapy is an example of such a treatment modality; however, it is rarely researched scientifically in the forensic psychiatric field. Music therapy in this study is defined as the use of musical intervention grounded in cognitive behavioral therapy (CBT) and based on best practice used to accomplish individualized goals of change or development in emotional, behavioral, cognitive and social functioning within a therapeutic relationship (ArtEZ, 2009, based on the definition given by the American Music Therapy Association, 2005, and the Dutch Music Therapy Association, NVvMT, 2009). The objective of this study is to explore whether and which behavioral improvement occurs in inpatient forensic psychiatric patients due to music therapy.

5.1. Music therapy in forensic psychiatry: treatment and research

As with the majority of the treatment programs within international forensic psychiatry, music therapy focuses on overt behavior and is assumed to affect a patient's (re)actions in a well-defined and structured situation (Coddington, 2002; Crimmins, 2010; Smeijsters & Cleven, 2004).

5.1.1 Music

Why and how could music be an effective treatment intervention for forensic psychiatric patients? The core assumption in the theoretical literature on the functions of music is that music is generally composed, or played, to express emotion (whether it be love, anxiety, sadness, fear, aggression or anger), to trigger cognitions, or to contain behaviors. Saarkallio and Errkilä (2007) found that, besides entertainment, healthy adolescents use music to enforce relaxation, to distract from certain emotions, to energize a person, to offer solace, or to discharge emotions.

Music can provoke sensory images within us, whether these are mild or strong. Music can help people to express, recognize or sense inner (emotional, cognitive, physical or psychological)

Abstract

The effect of music therapy on anger management and coping skills is an innovative subject in the field of forensic psychiatry. This study explores the research question: Can music therapy treatment contribute to positive changes in coping skills, anger management, and dysfunctional behavior of forensic psychiatric patients? To investigate this question, first a literature review is offered on music therapy and anger management in forensic psychiatry.

Then an explorative study is presented. In the study, a pre- and post-test design was used with a random assignment of patients to either treatment or control condition. Fourteen participants' complete datasets were collected. All participants received 'treatment as usual'. Nine of the participants received a standardized, music-therapy anger management program; the five controls received, unplanned, an aggression management program. Results suggested that anger management skills improved for all participants. The improvement of positive coping skills and diminishing of avoidance as a coping skill to show greater changes for music therapy participants. When controlling for the exact number of treatment hours, the outcomes suggested that music therapy might accelerate the process of behavioral changes.

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motions that influence our daily life (Juslin, 2009). When making music, it can help to express specific emotions and contain these emotions at the same moment. This we call the containing power of music.

Music can also be a vehicle to express or contain quite different personal emotions or social issues. Tentative issues in society can be conveyed through music. For example, in society the (verbal) expression of certain emotions (such as anger through aggression), are often condemned and perceived as negative—or even destructive (Lorber, 2004; Lowenstein, 2004). Music has the strength to help people experience and express feelings without acting them out in reality. The psychobiological strength of music stimulates human beings to apply music in their daily life to cope with emotional situations (Ter Borgt, Mulder et al., 2011; Thaut, 2005). So music can influence people, yet it has no therapeutic value by itself.

5.1.2 Music therapy

Music therapy is the profession that systematically applies music's psychobiological and containing power to influence people (Hakvoort & Dijkstra 2012; Wigram, et al, 2002). Insights from emerging scientific fields such as neurology suggest the effectiveness of music applied in therapy—as well as an explanation for these effects (Lin et al., 2011; Thaut, 2005; Thaut et al., 2004). If implemented therapeutically and systematically, music is a promising method to influence the neurological processes of human beings.

Promising are the results of Blood and Zatorre (2001), Esch and Stefano (2004) and Nistri et al., (2006), who demonstrate neurological pathways that could be applicable in music therapy treatment for people who suffer from addiction problems. The explanation is that music stimulates brain processes that influence the production of specific endorphins in receptors (DRD2); a process that is severely impaired and damaged by, for example, long-term use of psychedelic substances (Feltenstein & See, 2008; Stansfield & Kirstein, 2005). An average of about 70 percent of the forensic psychiatric patients in the Netherlands has a problem with substance abuse (Van Gemmert & van Schijndel, 2011)

Cognitive behavioral music therapy (Hakvoort & Bogaerts, 2013) is meant to help facilitate emotion regulation, which is a skill that is often taught in CBT with offenders and psychiatric

patients. The music is used as a training situation. Skills, such as improving selective attention or asking for help, that need to be developed are trained and rehearsed, first under musical circumstances and subsequently in everyday life. The music is applied as training facilitator and to reinforce, as well as motivator. If the patient has sufficient cognitive skills, cognitive adaptations are stimulated through insight in (musical) functioning.

Cognitive behavioral based music therapy in forensic psychiatry, centers on the basic principles as outlined in Bonta and Andrew's (2007) 'What Works' framework: the risk-need-responsivity model. Music therapy, here, focuses on minimizing risk factors and addressing the (treatment) needs of forensic psychiatric patients, although often this framework is implicit. Music therapy can specifically address the responsivity of the patients by becoming attuned to their musical interest. Treatment is based on need principles, such as building problem-solving, self-management, anger management, and coping skills, as well as reducing substance abuse behavior (Andrews et al., 2006; Brand & Nijman, 2007; De Vogel, De Ruiter, & Bouman, 2007; Van Nieuwenhuizen, Bogaerts, Ruijter, de, Bongers, Coppens, & Meijers, 2011).

A qualified and competent music therapist has the ability to create a specific stressful situation for a patient in a safe environment. This component is one of the major strengths of music therapy (Dijkstra & Hakvoort, 2010; Hakvoort & Smeijsters, 2006; Kluck-Walpot & Vink-Brouwer, 2006; Laansma & Riemke, 2006). During music therapy, a patient is confronted with several musical assignments that provoke his reactions. These assignments may mimic situations in real life. These situations can be everyday situations or very specific (stress-enhancing) situations (such as being rejected or having to meet one's own or another person's impossible expectations). Patients are placed in musical situations that demand a modification of their behavior. This condition enables patients to experience and demonstrate their capabilities and limitations to adjust to a new or stressful situation. A music therapist actively intervenes in this process and controls the music condition. During the music therapy, the music therapist addresses positive psychosocial and executive functions and enables the patient to apply and practice newly acquired skills.

Because patients perceive the music therapy situation to be 'just about playing music', they can reveal their typical coping and impulse regulation skills but do not become traumatized

or engage in violent acts. Therefore, music therapy creates musical situations that are realistic and can be manipulated to evoke stress but do not threaten or harm the patient or the therapist. Especially when working on treatment goals directed toward anger management—a major problem for most forensic psychiatric patients—the act of making music can help forensic psychiatric patients practice new skills before they have to practice them in daily life (Hakvoort, 2002; Rickson & Watkins, 2003).

5.1.3 Case example

In this section, an example of music therapy anger management in forensic psychiatry is presented in order to clarify some details in a treatment process.

Keith¹ is a 25 year old man suffering from a Cluster B personality disorder, addicted to cannabis, with a verbal IQ of 74 and a performal IQ of 78. He was convicted for manslaughter of a drug-dealer whom he seemed to have stabbed in rage after a decline. Keith was sentenced to prison followed by treatment under the Entrustment Act (see Subjects in Methods section). He has extreme aggression outbursts in which he destroys furniture in his room or at the unit or attacks staff-members. He was referred to music therapy to work on his anger management skills. Keith was motivated to join since the music therapist promised to help him write his own rap-text.

In the therapy, they first start searching for his favorite music and the ideal music to relax when he is agitated or angry. The music therapist places the music in an order from fitting angry states to fitting relaxation. She burns the music to a CD that Keith can listen to during music therapy. Consecutively, Keith receives psycho-education about stages in anger, aggression and regulation. Due to his limited intelligence this education is kept very simple, mainly consisting of rehearsing, cognitions like: “If I feel irritated, I have to leave the conversation.”

Secondly, the music therapist and Keith train relaxation skills during a number of sessions while listening to, moving to and making music. If Keith is tense, head-banging and jumping (he calls it dancing) to music works well to regulate some of his extreme tension. When dancing, he often feels the urge to scream as well, so they compose his own rap text for that moment. Rap music therapy is a specific treatment approach that addresses both the musical aspects (rhythm, dynamics) and expressive as-

pects, as well as lyrics (Hakvoort, 2008). The music therapist assists Keith in defining the content of his rap. It should match the situation he is in (tense, angry) and it should match his own accountability for the situation. The rap should be personalized to Keith to support his identity, but also simple enough to let him memorize it easily. In addition, they work on rhyme and rhythm. He is proud to write his own two-sentence text (translated from Dutch):

“My name is Keith and through my own deed,
I’m condemned to TBS², which gives me a lot of stress.”

They practice dancing and rapping the text to the music that best matches Keith’s angry state. After about two minutes of dancing and rapping he gets tired. At that moment, he sits down and uses relaxation-to-music-breathing-skills to unwind. The next sessions they continue practicing, with the music therapist progressively withdrawing from the process.

The music therapist and Keith practice applying the CD, first during music therapy. After a number of run-throughs, the music therapist creates musical situations that trigger Keith’s anger. She encourages him to imitate her (too difficult) piano riffs. Every time he does not match her riffs exactly, she repeats the pattern a little louder and faster. She observes Keith’s anger rising during the musical assignment. Just before she estimates that he is about to lose control she reminds him of what he should do when angered. She assists him in putting on the music and dances along with him, initiates the rap-phase and is surprised to see Keith apply the relaxation-to-music-breathing-skill by himself. They repeat this pattern during a number of music therapy sessions, and then let Keith practice it in his room (first supervised by the music therapist and then more and more independently). A large sheet of paper is taped to the inside of Keith’s door saying: Angry → shut the door → turn on the music → dance, rap → sit down on your bed → breath with the music → ring the bell if you are relaxed again.

On the unit, Keith first needs hints from the socio-therapists to apply his newly-learned skills, but more and more often he withdraws to his room as soon as he becomes angry or extremely agitated and applies his anger management skills all by himself. His violent out-burst have disappeared.

² TBS = Dutch Entrustment Act, see Paragraph 5.3.1.

¹ Fictitious name; this patient was not involved as a participant in this research.

5.1.4 Anger

Anger is perceived as one of the dynamic risk factors for forensic psychiatric patients (Douglas & Skeem, 2005). Anger is thought to be an aversive emotion that can involve active approaches (Potegal & Stemmler, 2010) as well as passive resistance (Fernandez, 2013). According to Novaco (2010), “the central characteristic of anger in the broad context of clinical disorders is deregulation – its activation, expression, and experience occur without appropriate controls” (p. 485). Anger has paradoxical effects on the physical, cognitive and emotional functioning of people (Lowenstein, 2004; Potegal & Stemmler, 2010). It arises as a “cognitive appraisal of wrongdoing and a tendency to counter or redress the wrongdoing” (Fernandez, 2013, p.3). The emotion of anger is evoked in specific situations, which differ across individuals. Anger can have a physiological impact, both positive and negative, on cognition and behavior (Potegal, & Stemmler, 2010). Under certain circumstances impulses and tempers triggered by anger overrule cognitive functioning (Potegal, & Stemmler, 2010). Probably all forensic patients have disturbed anger coping-mechanisms. These mechanisms have developed over many years of disturbed anger management and susceptibility to feelings of wrongdoing (Fernandez, 2013). The way they handle their anger might then cause them to victimize others.

A cognitive understanding of the factors contributing to the offense of the patient alone is not enough to prevent relapse (Mann, Hanson, & Thronton, 2010), because a number of risk factors contribute to a violent act. Aggression might be a behavioral reaction fueled by anger, but it can also be thrill-seeking behavior (Averill, 1983). The patient has to come to the realization that he lacks coping skills that are common among his peers and that he often overestimates his ability to handle stressful situations (Bouman, De Rooter, & Schene, 2003). Coping skills refer to a person’s cognitive, behavioral, and emotional adjustment to (changing) situations (e.g., Folkman & Lazarus, 1984; Folkman & Moskowitz, 2004). Negative coping skills (such as violent behavior), show a positive correlation with relapse into criminal behavior (Brand & Nijman, 2007). Subsequently, the patient has to practice and train newly acquired (coping) skills to master and apply them in real-life situations.

5.1.5 Music therapy in correctional settings

Dijkstra and Hakvoort (2006) and Gallager and Steel (2002) designed and implemented specific addiction treatment programs for forensic psychiatric patients and offenders with substance abuse problems. Music therapy is applied in the programs to trigger emotions and build both interpersonal and coping skills. Music assists the process of rehearsing and repeating the newly acquired skills. Rickson and Watkins (2003) designed a specific music therapy program to promote pro-social behaviors in aggressive patients, whereas Watson (2002) used drumming to improve social skills, pro-social behavior and the ability to become aware of and manage emotions. Hakvoort (2002) designed a specific music therapy anger management program tailored to the possibilities and limitations of forensic psychiatric patients.

Although music therapy is applied internationally in correctional settings, research on the influences of music therapy in inpatient forensic psychiatry is rare. The few research articles available are sometimes over 20 years old or focus on qualitative case descriptions. These studies tend to explore emotional reactions (such as anxiety, anger and tension as rated by the patients themselves), and rarely examine aspects such as coping skills or anger management as observed by staff. For example, Hoskyns (1995) observed an increase in positive self-perception and in the expression of emotions through music therapy in forensic patients. Thaut’s (1989a&b) music therapy research indicated that patients expanded their coping skills after music therapy treatment. Patients reported improvements in the ways in which they reacted to fear and tension-arousing situations.

In a self-report research design, female inmates indicated that they felt more relaxed, experienced less stress and could express themselves better after 12 music therapy sessions (Daveson & Edwards, 2001). Patients indicated that music therapy led to a decrease in stress, anger and frustration. That research study suggests that music therapy can shift coping skills from mainly aggressive behavior to general acceptance. Drieschner (1997) performed one of the few quantitative research studies of music therapy using forensic psychiatric patients in the Netherlands. He demonstrated that percussion improvisations had a positive physical effect on the anger management skills of forensic psychiatric patients. He compared percussion improvisations with the effects of solving a tangram puzzle.

At present, a number of researches on music therapy with offenders have been initiated or completed. Gold et al. (2013) examined the influence of music therapy on the mental well-being of prisoners. Due to a very short average period of incarceration (62% of participants stayed less than 1 month), the positive results can only be met with caution. Currently, Chen et al. (2013) is repeating Gold et al. (2013)'s research in China. Even a Cochrane systematic data review on music therapy with offenders is in preparation (Protocol by Chen et al., in review).

5.2. Objectives and hypotheses

The objective of this study is to explore whether behavioral improvement occurs in forensic psychiatric patients due to music therapy by focusing on need-factors: coping skills, and anger and aggression management. The study was conducted within four forensic psychiatric clinics in the Netherlands using five certified music therapists.

The research question was: Can music therapy treatment contribute to positive changes in coping skills, anger management, and dysfunctional behavior of forensic psychiatric patients? The alternative hypothesis was formulated as follows: Music therapy interventions affect coping skills in a positive way (increasing positive reactions and decreasing avoidance coping reactions) and improve the anger management skills of forensic psychiatric patients.

5.3. Methods

5.3.1 Participants

The Dutch forensic system is different from most forensic psychiatric systems in the world. If a suspect is found guilty but not—or only partially—accountable or culpable, a judicial court can pass a sentence of imprisonment followed by treatment under the Dutch Entrustment Act (TBS). The Dutch Entrustment Act is a judicial instrument embedded in the Criminal Code. It combines a prison sentence with confinement in a TBS-maximum security hospital (Van Marle, 2002: 83)³. The idea behind this system is that a severe psychiatric disorder might influence the suspect to commit a crime. The main goals of the Dutch Entrustment Act are to protect society from these dangerous or psychologically disturbed offenders and to prevent the offender from relapse into violent criminal behavior.

The participants of this study were male forensic psychiatric patients. They were enrolled in the Dutch forensic system between August 2008 and December 2011. Of the 13 subjects who participated, 14 datasets were gathered, since one of them completed both control and subsequent treatment condition. The average age of the 13 participants who completed the study was 35.6 years (ranging from 25 to 49, with a standard deviation of 8.9 years). They were selected if they had overall IQs over 75 and were within their first one and a half years of forensic hospitalization in the Netherlands. The severity of crimes ranged from armed robberies (with extreme violence), to (extreme) sexual assaults of women or children, to manslaughter. Participants were included if they did not suffer from schizophrenia or acute psychosis and had not been previously sentenced to TBS treatment. Twelve participants suffered from at least one personality disorder, more than 60 % of whom suffered from Cluster B personality disorders (APA, DSM-IV-TR, 2000). One participant suffered from Asperger syndrome. Five of the participants did not come from Dutch cultural backgrounds. Eight of the participants had been addicted to psychedelic drugs (at least one). See Table 5.1.

Out of 21 persons who were invited to take part in the study, six refused to participate (three of whom wanted to have music therapy treatment and made sure not to end up as controls on the waiting-list). One experimental participant refused to participate in the post-test due to conflicts with unit-staff. Treatment of one experimental participant was terminated early due to safety risks of the music therapist. Five participants completed the control condition and nine the experimental condition. As mentioned, one of the participants completed both conditions; see Figure 5.1. The only key-difference found between the drop-outs and those who completed the study was found in the participant who was rejected early from the study. He showed an extreme high score on the Psychopathy Check List –Revised (Hare, 2003).

5.3.2 Experimental design

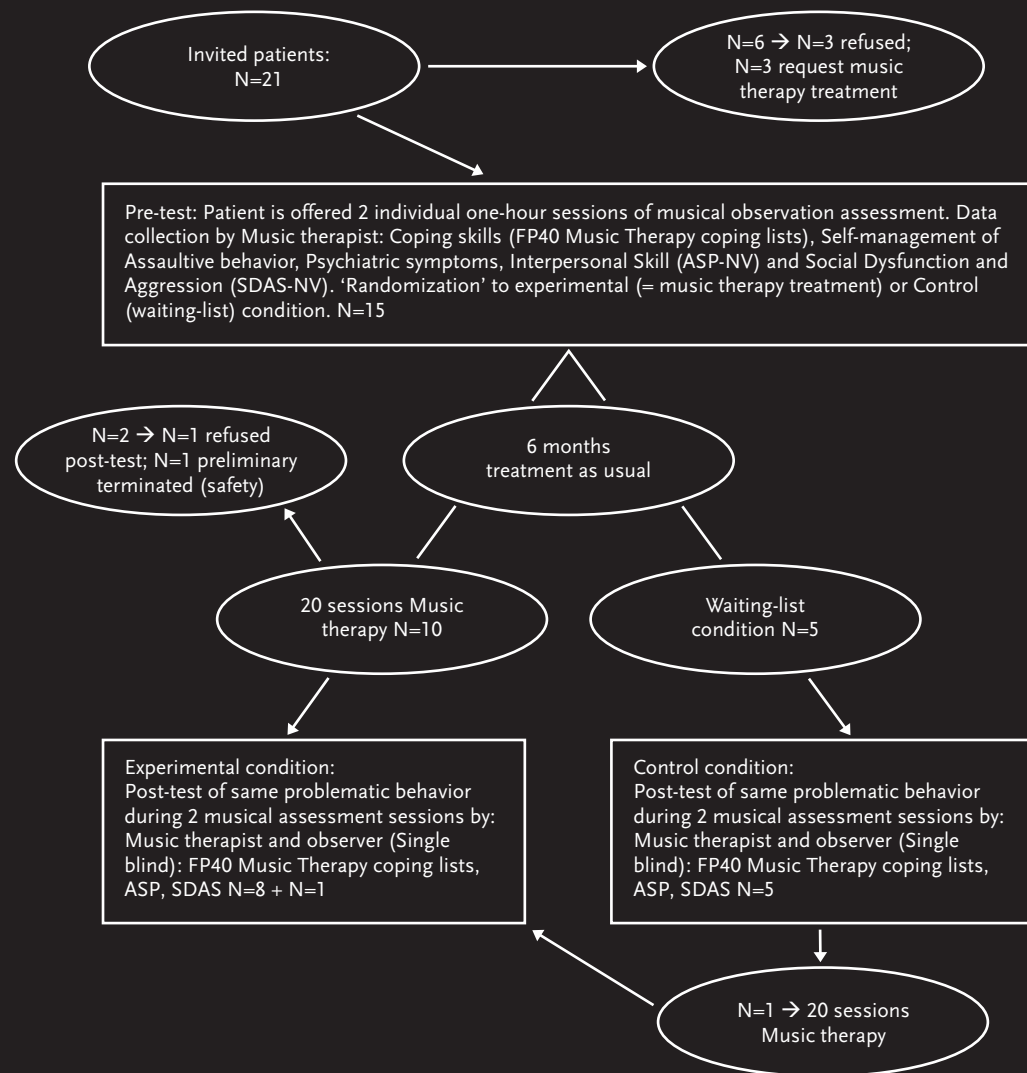
This study was initially set-up as a Randomized Controlled Trial (as approved by the Medical Ethical Committee of the University Medical Center of Groningen; Trial number METc 2008.099 ABR 20688). Due to major set-backs (such as a huge decrease of newly enrolling forensic psychiatric patients in the Dutch TBS and the allocation of trained music therapist), only a small number of

³ The 'care order' has to be renewed every (other) year. The public prosecutor will request to lift the 'care order' only when the treatment team deems the forensic patient no longer dangerous. Subsequently, a court review can terminate the 'care order'.

Table 5.1. Characteristics of the participants

N=13	Personality Disorder (PD)	Cluster B PD	Non-Dutch background	Addiction	Mean Age (s.d.), Range
Number of subjects	12	7	5	8	35.6 years (8.9), 25-49

Figure 5.1. Research design per participant:



patients enrolled in the research. Although it might look therefore exaggerated, we nevertheless tend to meet the CONSORT-statement (Schulz, Altman, & Moher, 2010) for clarity of the treatment procedure. In the study a multi-center approach was introduced to prevent biases in the data resulting from a specific music therapist or a specific clinic. Music therapists in forensic psychiatry were selected based on their education, skills, and experience with cognitive behavioral music therapy. They were trained on a standard protocol to assure similar interventions (see: *Standardized music therapy anger management program* for more details). At the end, five music therapists from four forensic psychiatric clinics took part in the research.

A pre- and post-test design was conducted to measure coping skills, anger management and dysfunctional behavior. Figure 5.1 provides a schematic overview of the research design per participant. All participants took part in two musical observation sessions (Hakvoort, 2007). They were offered a standardized assessment including coping-exercises for the drum-set and piano by the music therapist. After these two sessions, the music therapist who led the sessions conducted an assessment of coping skills, anger (aggression), and dysfunctional behavior using different assessment tools: the pre-test.

After the pre-test, participants were randomly assigned to either the experimental or waiting list (control) condition by an independent researcher. This independent researcher was offered the birthdate of the participant. The last number of the day of birth would resemble music therapy (even) or control (uneven); music therapists were unaware of the randomization criteria and the researchers unaware of the date of birth. A patient who was assigned to the experimental condition was offered a standardized music therapy anger management program for 20 one-hour-a-week individual sessions (see Procedures). Control participants received 'treatment as usual' (without music therapy). Treatment as usual contains medical treatment, occupational therapy, recreational activities, and therapies (such as psychotherapy, art therapy, addiction treatment). After their post-assessment, they could participate in the experimental condition, which one participant did.

After the 20-session treatment (equaling 6 months) or six-month waiting-list period, a post-test that replicated the pre-test was conducted. Again participants were offered a standardized

assessment including coping-exercises for the drum-set and piano by the music therapist. After these two sessions, the music therapist who led the sessions conducted an assessment of coping skills, anger (aggression), and dysfunctional behavior using the same assessment tools. These two musical observation assessments were videotaped and rated by the principle researcher (see results for inter- and intra-rater reliability). This person was not aware of whether a participant was assigned to the treatment or control condition (single blind data gathering), but was able to identify 9 out of the 14 participants correctly for their treatment condition after observing the videos. The principle researcher trained the music therapists how to score the observation lists, using video-excerpts of participants who were not involved in the study, whose video had been scored already by the observer or from participants who had withdrawn from the study (but who had agreed to the use of their video for training purposes). Pre-set standards were formulated in a codebook. The number of reactions on a certain assignment was scored in percentages. Standards and criterion were set beforehand and refined during regular supervised meetings between the music therapists and the principle researcher.

Observation assessment tools were applied during pre- and post-tests (no self-reports). The tools included the Coping Skills List from the Forensic Psychiatric Profiles 40, the Social Dysfunction and Aggression Scale, and three of the Atascadero Skills Profiles.

The coping skills list from the Forensic Psychiatric Profiles 40 (FP40; Brand, 2006) was applied to measure coping skills. The FP40 coping list measures positive coping (acceptance, humor, asking for help, positive actions), avoidance coping (ignoring, withdrawing, denying) and negative coping (threatening, violent acts). The scale ranges from one to three (1 representing 'never' and 3 representing 'during at least 50% of the displayed reactions'). The FP40 includes an observation scale for coping skills within forensic psychiatry. The inter-rater reliability was measured via Intra-Class Correlation Coefficient (ICC; Shrout & Fleiss, 1979). The inter-rater reliability varied between ICC .64 and .86 (Brand, 2006). The items of the FP40 were adjusted by the researcher to be able to observe coping behavior in music therapy. This adjusted score-list uses the same scales as the FP40 coping list, but within different situational contexts (e.g., 'handling failures at the

unit' is replaced by 'handling failures during music therapy'). The music therapist and the researcher who scored videos filled out the FP40 coping list for Music Therapy independently for both conditions.

Two lists were applied to measure anger management skills. First, the music therapist and principle researcher filled in three scales from the Dutch Version of the Atascadero Skills Profiles (ASP-NV; Vess, 2001; translated by researchers of the FPC dr. S. van Mesdag, 2004). Scale 1 measures self-management of psychiatric symptoms, Scale 4 measures the self-management of assaultive behavior, and Scale 9 measures interpersonal skills. The scales range from 0 to 4 (with 0 representing 'this skill is non-existing'; 4 representing 'this skill is completely adequate'). In the FSA-R-version created by Neville and Vess (2001), the Atascadero Skills Profile was determined to be reliable and valid for rehabilitation therapy (including music therapy), with reliability coefficients ranging from .87 to .98 for the entire instrument.

The second list to assess anger management skills was the Social Dysfunction and Aggression Scale (SDAS by Wistedtet al., 1990; Dutch translation by B. van der Werf, 1997). The SDAS includes 11 items of dysfunctional or aggressive behavior (such as scolding, suicidal thoughts, or threatening behavior). Each item is scored between 0 (= not present) and 4 (= severely present). The scores are added to determine a level of dysfunctional or aggressive behavior. The ICC of the SDAS was reported to be .97 (Wistedt, et al, 1990).

The pre- and post-test included the same tests that were completed after the first musical observation sessions. The post-test was completed six months after the pre-test. To garner general information about the participants, we gathered background information from the HCR-20 (Webster, Eaves, Douglas & Wintrup, 1995; translated by Philipse, de Ruiter, Hildebrand & Bouman, 1999) and the HKT-30 (Werkgroep Risicotaxatie Forensische Psychiatrie, 2003) and a list for "Additional Treatments" (De Jonge, De Spa & De Vos, 2006). HCR-20 stands for Historical Clinical Risk-20 (Webster, et al. 1995). Harte and Breukink (2010) calculated its reliability ICC score as varying between .49 and .82 (De Vogel & De Ruiter, 2005; Hildebrand, Hesper, Spreen & Nijman, 2005). HKT 30 stands for the Dutch variation Historisch Klinisch Toekomst-30, as created by the Werkgroep Risicotaxatie Forensische Psychiatrie (2003). The reliability ICC (Harte & Breukink,

2010) varied between .61 and .87 (Canton, van der Veer, van Panhuis, Verheul & van den Brink, 2004; Hildebrand, et al, 2005; Schönberger, Hildebrand, Spreen & Bloem, 2008).

5.3.3 Standardized music therapy anger management program

In the treatment condition patients were offered a standardized cognitive-behavioral music therapy anger management program tailored to the needs of forensic psychiatric patients. This program was created using a literature review and a forensic-psychiatric-music-therapist's peer review (Hakvoort, 2002). The general goal of the music therapy anger management program is to train a patient to regulate and control his reactions to irritation or anger. The evaluative goal of the program is two-fold. The program is considered to be completed successfully 1) if the patient is aware of and can manage at least two situations that trigger his anger and 2) if the patient can apply at least one new coping technique to diminish his anger. A number of sessions contain homework assignments to enhance the transfer of learned skills from music therapy to daily life.

The music therapy contains four stages. During the first stage, the patient is introduced to different aspects of anger management and relaxation while making music and listening to different styles of music. In addition to becoming familiar with the music therapy environment, the patient's therapy also focuses on treatment-conditions (security and safety). (In the case of Keith, he listened to music and is asked for styles and favorites). During the second stage, the patient learns techniques to reduce tension and receives psycho-education on discerning the different phases of anger (Keith practiced dancing, rap and relaxation exercises). During the third stage, the patient's awareness of specific stressors is enhanced. He discovers at least two specific situations that arouse anger/aggression and is able to label at least one 'explosive' condition. During this phase, he is instructed to use techniques from the second phase to reduce tension. (In the case example, the music therapist triggers Keith's anger in this third stage by provoking Keith's feelings of failure; she then assists him in using the newly trained skills). During the last stage, the patient learns to apply personalized techniques independently to manage stressful situations and alleviate his anger (Hakvoort, 2002). Patients participated in assignments such as imitating the drum patterns of the music therapist (which got too difficult to

repeat after a while), improvising while the music therapist provides a boring accompaniment or one without any structure.

The anger management program is offered on an individual basis. All sessions take place in a music therapy room, equipped with a variety of instruments, including drums, piano, keyboard, computer with music programs, (bass) e-guitar, at least one drum-set, microphones, a PA system and a high quality stereo-set.

The music therapy program is outlined in a music therapist's manual. The manual describes each session's objectives, the mandatory and suggested assignments and the musical attitude or roles of the music therapist during each session. Music therapists underwent a specific training course that focused on the assessment of coping skills and executing the anger management program. In addition to this training program, music therapists were supervised to provide uniformity during the treatment program and scoring procedures.

5.3.4 Statistical analysis

Only 14 participants were included in our study due to the low enrollment of newly admitted patients. The mean values found between the pre- and post-tests were plotted on graphs. Outcome measures in this study represent the outcome scores of the pre-test subtracted from the post-test of the SDAS, ASP-NV, and the FP40 coping list for music therapy. A nonparametric Wilcoxon matched-pairs signed-ranks test was performed on the Mean change scores of each condition to look for differences. This action can be justified because we used a standardized intervention, implemented a randomization of data and aimed for single blind data. A t-test was only used to calculate the means and standard deviations of the changes in the control participants (CS) and the participants in the music therapy treatment condition (MTC). The outcomes are presented in the following Figures. We did not expect significant changes ($p < .05$), and hoped for positive tendencies (as formulated in the alternative hypothesis).

To offer more insight into the individual responses of patient the treatment was also tested employing an additional N=1 statistical approach as discussed in Spreen, Timmerman, Ter Horst, and Schuringa (2010). This specific N=1 approach is developed to support decisions about an individual patient's progress during treatment and can also be employed to test the effect of an individual therapy. In this approach a team of ob-

servers rate different relevant behavioral indicators. Dependent on the treatment situation, a patient can be observed by a team of therapists. Each observer assigns a value on indicator "Anger". The statistical decision test is as follows: for each indicator (or item or scale) all given values of the observers are joined between two measurement moments. For instance, observer X gives a 6 on "Anger" and observer Y a 7 at the first measurement. At the second measurement observer X gives a 7 and Y a 8. To decide whether the patient has improved, all combinations of values of both observers between the two measurements are subtracted of each other. All positive differences are summed and divided by all combinations. This way the percentage positive and negative change according to the observers is computed. From a simulation study⁴ where this percentage positive change was compared to simulated Randomized Controlled Trials, cases with a positive change percentage of 67 % or more had a high probability (.95) to be classified in the experimental group of the RCT's. The results for each patient are plotted. Above the axis is the number of increased behaviors, below the axis the number of decreased behaviors. Small rectangles imply hardly any changes. The significant level for change is calculated to be 67% or higher for N=1.

⁴ This study was presented at a national researchers meeting of the WODC (Scientific Educational Documentation Center of the Dutch Department of Justice and Security).

5.4. Results

The sessions were scored by the music therapist and the principal researcher to check for inter-rater reliability (watching video registrations). The overall inter-rater reliability was good (Cronbach's = .80, with a range from .23-.95). The intra-rater reliability after a two-week interval was satisfactory (Cronbach's = .78, with a range from .24 - .92).

5.4.1 Coping skills

5.4.1.1 Avoidance Coping skills

As presented in Figure 5.2a, the mean (M) scores of control participants (CS) for avoidance coping skills did not differ significantly from the mean scores of participants in the music therapy treatment condition (MTC) during pre-test (control: M = 1.96 and treatment: M = 1.86). During the post-test, the participants from the treatment group showed a larger mean decline in avoidance coping skills than the control participants (control: M = 1.94 and treatment: M = 1.52).

Figure 5.2a. FP40 Avoiding Coping Skills

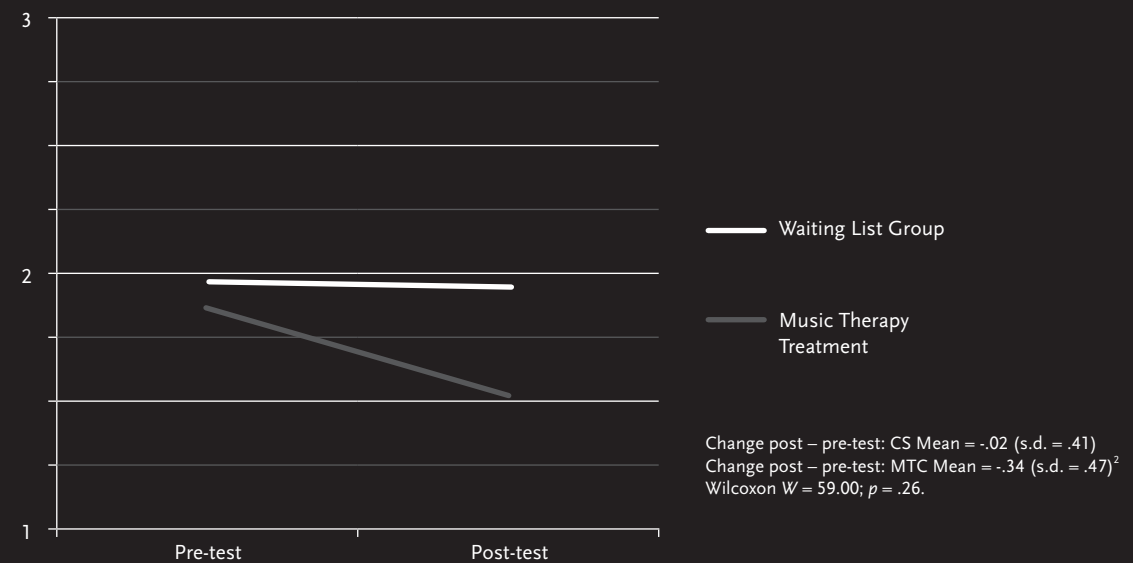
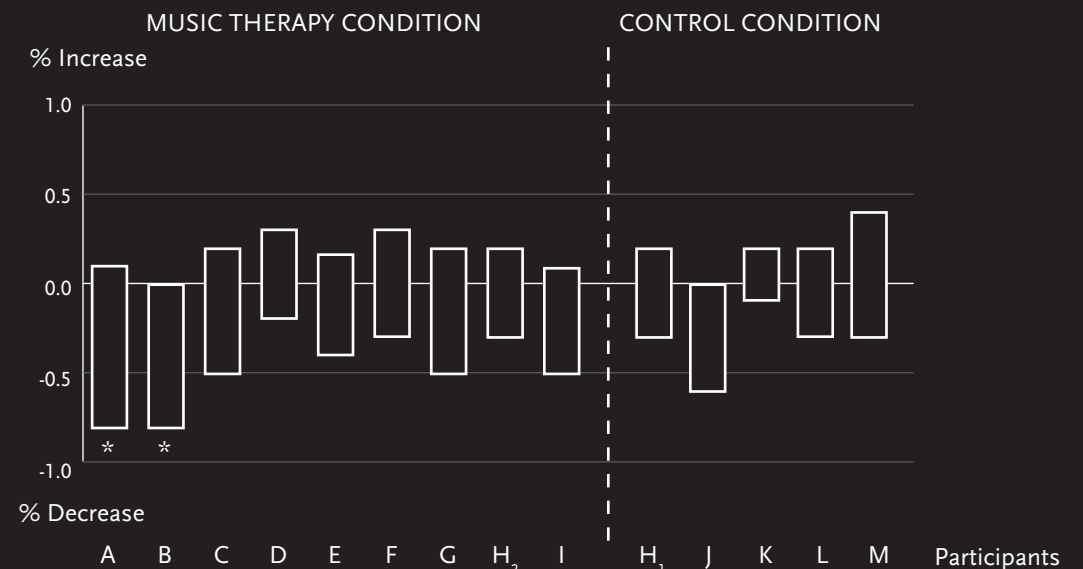


Figure 5.2b. N=1 of FP40 Avoiding Coping Skills



² Decrease means less avoidance coping skills; which is most of the time aimed for during the treatment.
* Significant level of change (for N=1 studies the significance is obtained at 67% or higher).

The mean outcomes show quite a distinct pattern (of decreased avoidance for the music therapy condition) which does not show up in the Wilcoxon. To enable the reader to better compare the outcomes a N=1 graph was added for each single participant in Figure 5.2b. The letters assigned to each participant are randomly picked. Most patients seem to show a decrease in the number of applied avoidance skills. For most patients that is a positive sign. However for some patients it is positive if they learn to apply more avoidance skills. Therefore it is hard to judge the exact outcome.

5.4.1.2 Positive Coping skills

The mean values of positive coping skills for the participants in both the control and treatment conditions did not differ significantly at the pre-test (control: $M = 1.76$ and treatment: $M = 1.68$). Only the music therapy treatment condition showed a substantial increase in the use of positive coping skills (control: $M = 1.77$ and treatment: $M = 2.13$), as shown in Figure 5.3a.

To investigate whether this result could be subscribed to specific outliers an additional N=1 boxplot for each single patient was added in Figure 5.3b. Here we can see that participant B (and A probably too) seems to influence the significance level. Other participants show quite similar patterns of change under both conditions.

5.4.1.3 Negative Coping skills

No changes occurred in terms of negative coping for all participants, as very few participants demonstrated negative coping behavior during music therapy. Therefore the results are not displayed in a figure.

5.4.2 Anger management results

5.4.2.1 Social dysfunction and aggression

The social dysfunction and aggression scale reflected a similar pattern of no change for both control participants and music therapy treatment participants (see Figure 5.4). Average dysfunctional behavior and aggression were from the start extremely low (control $M = 2.6$ and treatment $M = 2.56$ at pre-test; on a scale of 0 to 22) and changed little during the post-test (control Mean = 2.4 and treatment Mean = 2.56). On average, we can assume that participants who volunteered to enroll in the study showed lit-

Figure 5.3a. FP40 Positive Coping Skills

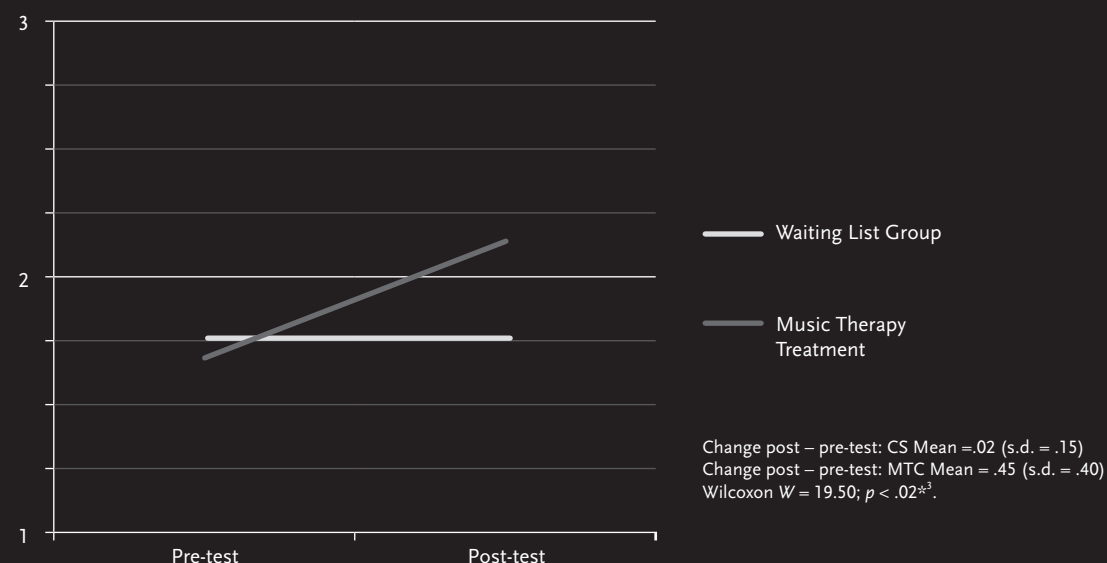
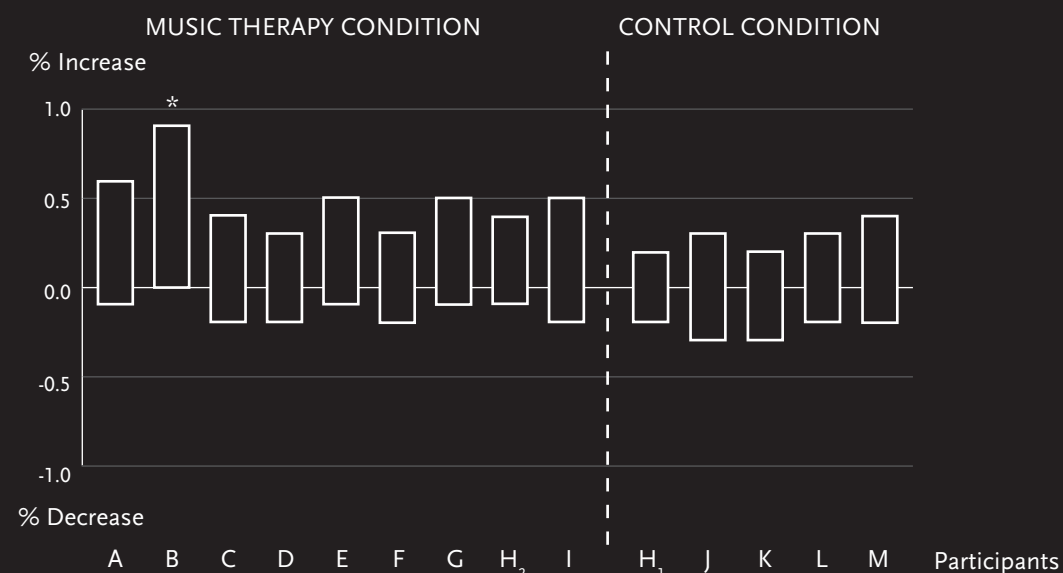


Figure 5.3b. N=1 of FP40 Positive Coping Skills



³ Unpredicted significant result; we treat this with caution due to the small N.

Figure 5.4. Social Dysfunction and Aggression

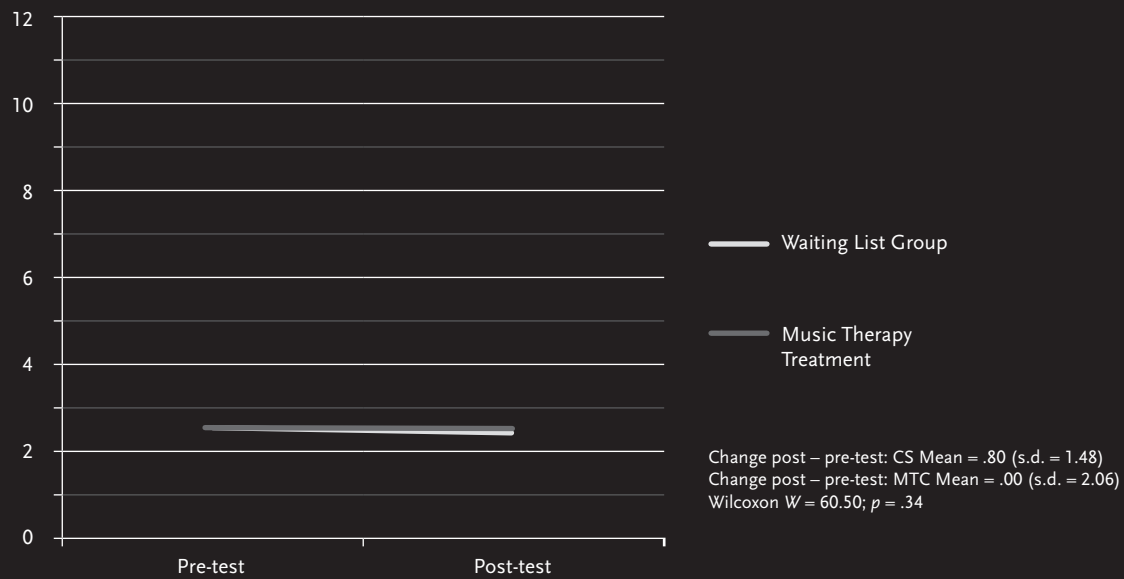


Figure 5.5a. Self-management of Assaultive Behavior (ASP, Scale 4)

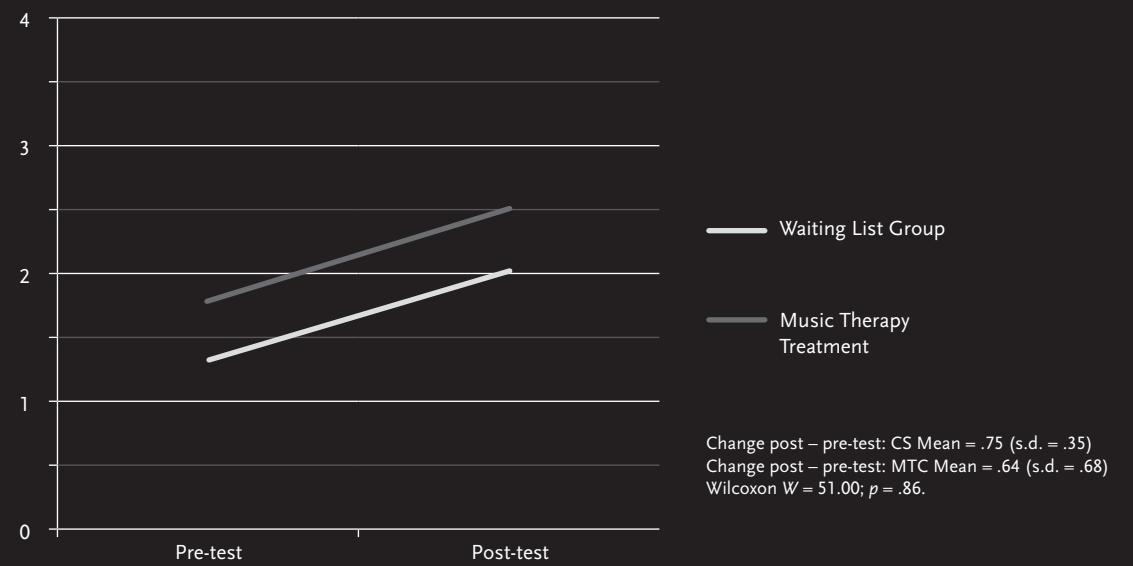
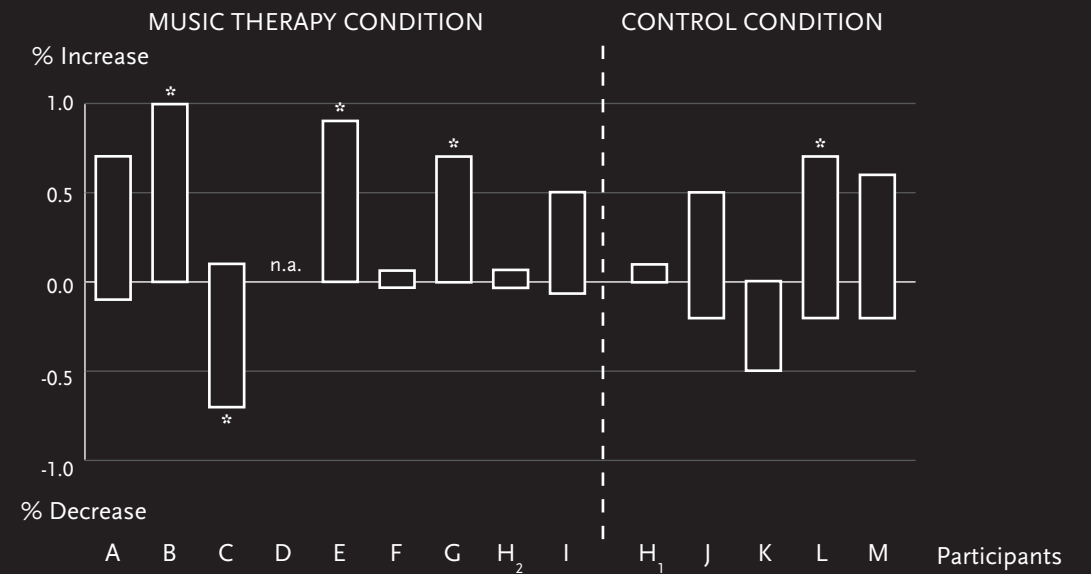


Figure 5.5b. N=1 of Self-management of Assaultive Behavior (ASP, Scale 4)



n.a. Stands for Not Available (due to partly missing data)

tle dysfunctional or aggressive behavior or negative coping skills during music therapy.

5.4.2.2 Self-management of assaultive behavior

If one examines the Atascadero Skills Profile and focuses on the skills needed to manage assaultive, aggressive behavior (Figure 5.5a), participants in the control and the music therapy treatment condition showed low ratings on these skills in the pre-test (control: $M = 1.31$ and treatment: $M = 1.78$). Both the controls and the music therapy participants seemed to have improved those skills at post-test (control: $M = 2.01$ and treatment: $M = 2.51$).

The difference in pre-test score is a coincidence in random assignment. Due to the small N it is not possible to tell whether the differences have a specific meaning. The fact that the participants enrolled in music therapy condition showed fewer interpersonal skills might have been compensated by the higher management skills of assaultive behavior. Since the scores of all other observations start pretty much on the same level, this difference can be due to one outlier as can be seen in Figure 5.5b.

Figure 5.5b provides us with some insight in the changes that occur per participant. Some participants show (significant) improvement and others became significantly less capable of managing their assaultive behavior.

5.4.3 Other results

Self-management of psychiatric symptoms seems to increase after 20 music therapy sessions (Treatment Pre-test $M = 1.76$, Post-test $M = 2.42$) compared to the stagnation as observed in the control participants (Control Pre-test $M = 1.87$, Post-test $M = 1.87$). Figure 5.6 shows a graphic representation. This result merely reflects a general tendency of more cognitive understanding, and is not a significant result.

As shown in Figure 5.7, music therapy also had a positive influence on the mean outcome of the participants who completed the Atascadero Interpersonal Skills profile. Control participants hardly improved their skills (Control Pre-test $M = 2.57$, Post-test $M = 2.62$), while those in the music therapy treatment group showed an improvement of interpersonal skills (Treatment Pre-test $M = 2.35$, Post-test $M = 2.76$).

Since the N of the study is small the statistical power of the research is weak (for the $N=14$, and a low effect size ($d=0.3$))

Figure 5.6. Self-management of Psychiatric Symptoms (ASP, Scale 1)

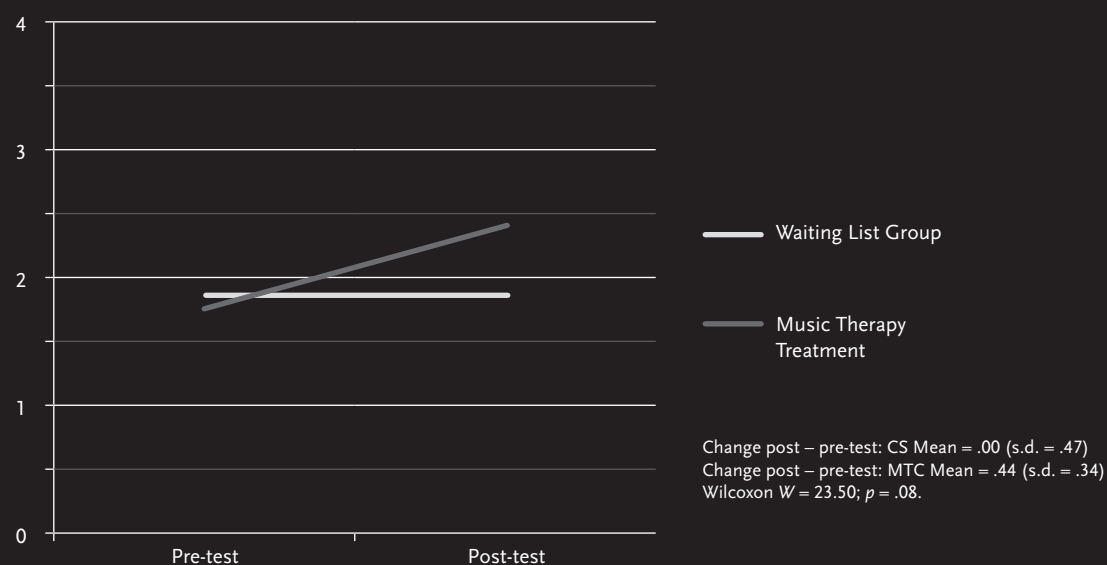
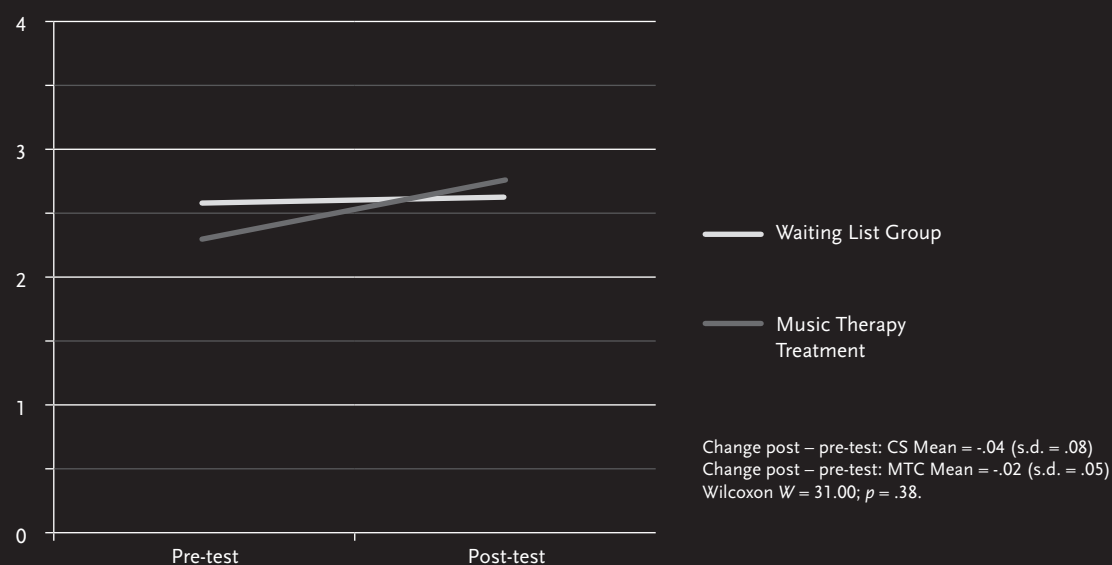


Figure 5.7. Interpersonal Skills (ASP, Scale 9)



the statistical power =0.12; with a higher effect size ($d=0.8$) the statistical power is still small =0.53). All results therefor have to be treated with the highest probable caution.

A remarkable difference was observed when participants were controlled for their exact number of treatment hours (excluding leisure or occupational activities). Those in the music therapy condition received an average of 4.1 therapy sessions (including 1 hour of music therapy) per week, with an average of 4 hours and 45 minutes. Control participants received an average of 4.4 therapy sessions a week, with an equivalent of more than 6 hours, thus considerably more hours of treatment per week than those in the experimental condition. The reason for the difference in hours is that most participants in the control condition coincidentally received Aggression Management Group Therapy (including psychomotor therapy and verbal psychotherapy with 2 therapists on a group of 3 to 4 patients) for 3 hours a week, while the music therapy participants received individual Music Therapy Anger Management training for 1 hour a week. So, the number of treatment hours differed. Music therapy participants received almost 1.5 hours less therapy than the controls.

5.5 Discussion

Changing a disturbed anger coping-mechanism consists of hard work and repetition of newly acquired skills, especially when dealing with personality-disordered offenders and offenders with severe mental illness. This conclusion furnishes an important critique on the effectiveness of anger management programs in general (Glancy & Saini, 2005; Howells et al., 2002; Koerner, 1999).

The primary, tentative results of this study may help to determine whether a specific music therapy treatment could improve coping skills and anger and aggression management in a small group of forensic psychiatric inpatients. The following hypothesis was formulated: Music therapy interventions can affect coping skills in a positive way (increasing positive reactions and decreasing avoidance coping reactions) and can improve anger management skills of forensic psychiatric patients. This explorative study shows no hints that the hypothesis should be rejected, but there is no statistical evidence to support it either. From the Wilcoxon – test, one significant change score for positive coping skills was found. With multiple testing on a single, very small

dataset however, Type I error might have occurred here as well.

Cognitive-behavioral music therapy could have a positive effect on coping skills. Participants who were assigned to the music therapy experimental condition tended to use more positive coping skills when compared to those in the control condition, although this differed among participants. This could mean that, the music therapy participants more often accepted a situation, asked for help or demonstrated appropriate behaviors.

Changes in avoidance coping skills differed slightly among control and experimental groups. The latter seemed to have less of a need to withdraw from social situations or deny that something difficult was happening. These are important skills to learn when examining the ‘need’ principles of Bonta and Andrew (2007). Brand (2006) and Brand and Nijman (2007) argued that need factors, such as coping skills can prevent relapses into violence.

One interesting side effect was observed. Participants who enrolled in music therapy had the tendency to improve their insight into their psychiatric symptoms and how to cope with their limitations, although they received fewer actual hours of treatment. Music therapy seems to increase the insight and cognitive awareness of forensic psychiatric patients regarding how to cope with their psychiatric problems under stressful situations.

For all participants, there was a small growth in management of assaultive behavior; treatment seems to influence their management skills. Descriptive differences in means were compared checking against randomness, to measure a tendency for improvement in coping and anger or aggression management behavior. These findings support the findings in previous literature about behavioral improvements of forensic psychiatric patients who participated in treatment programs (e.g., Andrews & Bonta, 2010; for the Netherlands: Brand & Nijman, 2007, Chaksshi De Ruiter, & Bernstein, 2010; de Jonge, Nijman, & Lammers 2009).

Most of the control participants, received a 3-hour per week aggression management training session. The experimental participants received fewer hours of treatment and yet made the same progress (or on individual bases even better). The difference in treatment (music therapy versus aggression management therapy) was not intended but arose spontaneously (the staff most likely decided that if participants received music therapy, they did not yet have to enroll in the aggression management

group). Only one treatment participant (H) received both—first aggression management training and later the music therapy. Yet he showed hardly any changes during both conditions. Because almost all participants had a low score on social dysfunction and aggressive behavior, we might be dealing here with a ‘floor effect’.

Changing years of inadequate anger management is difficult with forensic psychiatric patients. Getting enough participants enrolled in a clinical setting is even more difficult. But those are certainly not the only limitation of this study. The number of patients enrolled in this study was too small for a statistically significant answer to the research-question. Although numerous efforts were placed upon enhancing the number of enrolled participants, many (mostly external) factors influenced the fact that only five music therapists could deliver the complete fourteen datasets from a total of thirteen participants (for details, see Hakvoort, Esbach, Groen, Macfarlane, Roefs, Smit, de Vries-Kruidhof & Janssen, 2011). Due to this small N the results of individual participants are not compared with their background information, such as the type of offense, impulsivity, substance abuse, aggressive behavior, concurrent or former (medical or psychological) treatment, intelligence, personality disorder, and other information. The offences for which the participants were sentenced do not prove an origin in anger-provoked behavior for all of them; we are not sure whether their risk principles were anger-related behaviors.

There is no validated music therapy observation instrument for forensic psychiatric patients, let alone one that measures coping skills. The Atascadero Skills Profile has never been tested for its separate lists. Validity is therefore probably weak. The research design was intended to test the FP40 coping lists for Music Therapy for reliability using the data from the FP40 coping lists for socio-therapy. However, the data collected at the living unit by socio-therapy for coping skills were too often incomplete or even lacking to use for a reliability check. Inter-coder reliabilities showed negative results. So the data gathered for comparison were all from the music therapy assessment situation. In the post-test, the participants in the experimental condition had 20 sessions of music therapy experience. They knew the music therapist better and might have been more relaxed for a camera videotaping them. Results can be influenced through that procedure.

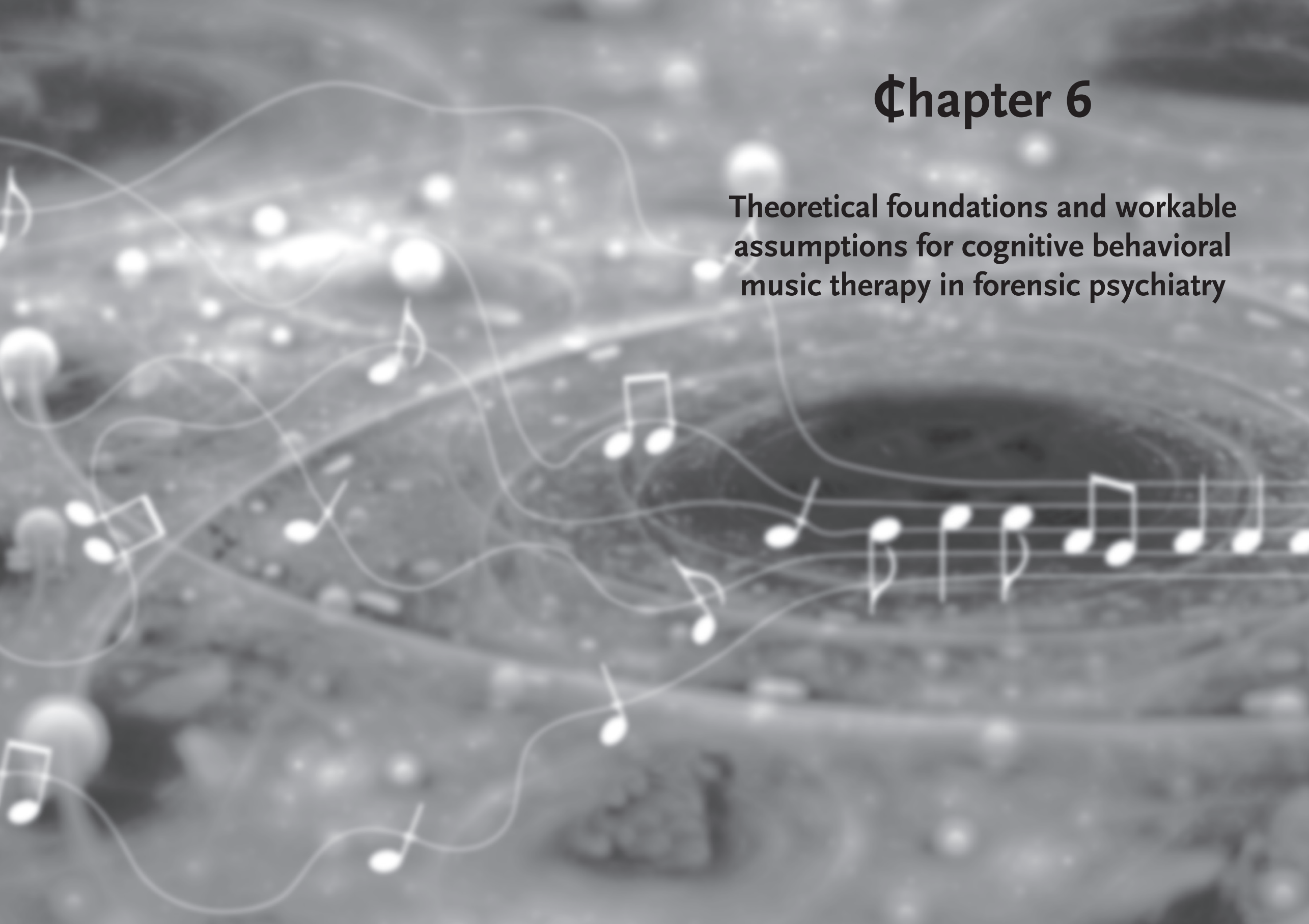
To find out whether music therapy might have a positive effect, further research has to be carried out. The music therapy anger management program could be more cost efficient compared to the group aggression management treatment, depending on the number of patients and therapists enrolled in, for example, group aggression management treatment. Whether it could increase forensic patients’ positive coping skills, decrease avoidance coping skills or offer them a better understanding of how to manage their psychiatric symptoms has to be explored in further research. Other tests might be applied to screen patients beforehand for anger management problems; selecting those with higher scores on dysfunctional behavior (higher risk factors) might influence the results as well.

We are dealing here with a selection effect as well. Not all invited patients were willing to participate. Those patients interested in treatment might be more eager to participate in research than those who are completely unmotivated, or suffer from anger-provoked passive resistance. All the participants volunteered; therefore, it could be likely that no difference between treatment and control groups were found. Music therapy seemed to appeal to the responsiveness of the patients (since three of them refused to partake in the study to ensure not ending up as controls).

This exploratory study offers a starting point or can function as a pilot for future, larger scaled research studies on the influence of music therapy on coping and anger management skills in forensic psychiatric patients.

Chapter 6

Theoretical foundations and workable assumptions for cognitive behavioral music therapy in forensic psychiatry



Theoretical foundations and workable assumptions for cognitive behavioral music therapy in forensic psychiatry

Although a relatively small number of music therapists work in forensic psychiatry (approximately 150 worldwide; Codding, 2002), they have produced quite a substantial number of articles on their work in this specific context (Compton Dickinson et al., 2012; Crimmins, 2010; Daveson & Edwards, 2001; Drieschner, 1997; Fulford, 2002; Gallagher & Steele, 2002; Hakvoort, 2002, 2007a&b; Hakvoort et al., 2012; Hakvoort et al., in press; Hakvoort & Smeijsters, 2006; Hoskyns, 1995; Meekums & Daniel, 2011; Reed, 2002; Rickson & Watkins, 2003; Rio & Tenney, 2002; Santos, 1996; Sloboda & Bolton, 2002; Smeijsters & Cleven, 2004; Thaut, 1989 a/b, 1992; Watson, 2002; Wyatt, 2002; Zeuch, 2001, 2003; Zeuch & Hillecke, 2004), until now no publication has provided an explicit theoretical foundation for the effectiveness of music therapy in the treatment of forensic offenders. This chapter aims to provide such a theoretical basis by focusing on the role of music, the music therapist and their influence on patients' development during music therapy in forensic psychiatry.

The chapter consists of three main parts. The first part describes how music therapy is used in forensic settings, with two cases using treatment excerpts of the music therapy. One illustrates the music therapy treatment of a group of forensic psychiatric patients and the other an individual case. The cases show how the music therapist affects and trains forensic patients by creating a specific music therapeutic process and therapeutic alliance. The second part provides a brief description of the overall treatment of forensic psychiatric patients. This part includes a discussion of the specific character of forensic treatment. Forensic psychiatry is characterized by the importance of risk-need-responsivity principles (Bonta & Andrews, 2007) and a cognitive behavioral approach. The third part of this chapter presents the theoretical foundations for the use of music therapy in forensic psychiatry. It discusses the functions of music in forensic psychiatry and how these functions can be utilized within a cognitive behavioral approach. Implications of the theoretical foundations are further illustrated using the cases as examples.

Abstract

This chapter offers a theoretical foundation for cognitive behavioral music therapy in forensic psychiatry. First, two cases are presented to give an insight into music therapy in forensic psychiatry. Secondly some background information on forensic psychiatry is provided. The risk-need-responsivity model is explained as starting point for treatment for forensic psychiatric patients, and the role of music therapy in this treatment. The third part offers a cognitive behavioral music therapy model and explains the (neurological) role of music and the music therapist in the treatment of forensic psychiatric problems. The chapter ends with a few final remarks.

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6.1.1 Case 1: group music therapy to enhance social interaction and coping skills

“... Blue Suede Shoes!....” screams Ron into his microphone. Jim hits all the tom-toms and the cymbals one after the other, while wildly hitting the bass-drum with his foot-pedal. Pete plays the A power-chord as fast as his hand can move up and down and Ben plucks the A-string on the bass guitar as strongly as he can. The noise is overwhelming, but as soon as the music therapist lifts her hands off the keyboard, they all four end at exactly the same moment. The last chord of ‘Blue Suede Shoes’ still vibrates in the music therapy room. Ben opens his eyes and looks around with a big smile. Not one of them speaks, but they all beam with delight. The therapist smiles and says: “Gentlemen, you have completed your musical goal very well! Each of you stuck to his assignments and used his acquired skills.”

These four men have been participating in music therapy together for 10 weeks. Ten weeks before the four of them were assigned to music therapy to work on their social and coping skills, such as listening to others, taking other considerations into account and learning to cooperate. The four men have quite a mixed background. Pete and Ben both suffer from psychotic episodes and are unmotivated for treatment. They are not allowed to move independently through the clinic. Ron has a mental retardation, an antisocial personality disorder and aggressive out-bursts. He is on medication and quite motivated to participate in treatment. Jim suffers from an antisocial personality disorder and brain-damage due to severe alcohol abuse. During the intake he has stated that he needs no treatment, he is doing well in the unit. He doesn’t understand why he is assigned to music therapy by the head of treatment. After a thorough intake, Jim agrees to come because he loves to play drums and the only drum-set available in the clinic is in the music therapy room.

During the first session Ben, Pete and Ron listen to Vertigo by U2, because it is one of the few songs they all appreciate. This will make the wait for Jim (who is late) less problematic and with its upbeat tempo might activate the three patients present. The first active musical assignment that was given is playing drums while the therapist plays Vertigo on the piano. Of the patients, only Ron is able to keep the beat steady. When the therapist stops playing, Pete also stops while the other two continue. Ron just does not listen and Ben is staring at him. The therapist prompts them to

stop and judges that the assignment of playing drums and simultaneously listening to the others is too difficult for them.

The therapist decides to start on a lower entrance level and changes the assignment to all playing the djembe. For the next 30 minutes they practice tuning-in to one another. They start with exercises in following rhythms of just one person at a time. All kinds of drum assignments are played: looking at the person who has to stop, looking at one another, with eyes closed (except for the therapist). Ben is amazed that if he closes his eyes he can concentrate better on the music and the people around him. He realizes that he is always focused on visual stimuli (suffer as he does from mainly visual hallucinations). The music, and especially the clear structure of the drum assignment, makes it possible to keep repeating the tasks.

Jim enters the session 30 minutes before it finishes. He immediately dismisses the whole assignment as ‘boring’ and the next as ‘too simple’. Jim refuses to play percussion, congas or djembe. He clearly states he is not a child and that these assignments are for ‘sissies’. He only wants to play the drum-set. Suddenly no-one wants to continue the exercises they were practicing. The therapist doesn’t want to raise the tension in the music room but also ignores Jim’s negative attitude.

The therapist asks each one to join in with ‘Blue Suede Shoes’ (a song with an easier structure than Vertigo). The therapist returns to the keyboard and asks Jim to play the drum-set. Ron, Ben and Pete keep their djembes. The latter three are very alert as to what happens musically and are very much focused on how Jim acts. Jim plays the drum-set very loudly; he does not play a fill, nor reacts to any break. As soon as the song ends he starts complaining. He fusses about the quality of the drum-set, he mocks that he misses an e-guitar and a bass-guitar in the song, and he comments the lack of good musicianship in this group.

The therapist decides not to step into the pitfall of reacting or counter-transference and asks them all to each tell one person what he would like him to change in the next run-through. Jim complains that a million changes are needed before this music can ever sound as it should. Because there is a tangible tension, the therapist asks Ben if he would be willing to play the three bass-notes on either keyboard or e-bass. Even before Ben can reply, Jim asks Ron to sing. Ron agrees. The therapist asks Ron what he would ask another person to change in his music. He asks Jim

to play less loudly. It takes Ben and Pete far more time to formulate any request to another person. After a number of suggestions by the therapist, Pete hesitantly asks if he can play the e-guitar. Ben wants to move-over, so he can play the bass on the music therapist's keyboard.

The next run-through of 'Blue Suede Shoes' is very tentative. Ron is singing softly keeping up with Jim's high pace drumming, which Pete cannot match on the e-guitar. Jim does not stick to his assignment and plays loudly, not listening to anyone else. Ben is completely focused on the therapist. He has lost the connection with the other three 'musicians', but is beaming. He successfully plays the A(4x) – D – A – E – A. The therapist paces the chords on the keyboard to Jim's tempo and Ron's singing but the latter only seems to hear Jim. After the first verse and refrain, the therapist decides to synchronize with Pete to support his efforts to play the correct chords. He smiles a blink of a second (recognizing that he has heard her), but has difficulties changing to the D chord, so the connection is lost again. After the second verse and refrain, the therapist stops, immediately followed by Ben. It takes a while before the others stop too.

Each one of them is asked to repeat his assignment verbally for this run-through and to state what are the most useful new skills they have learned today. Pete, Ben and Ron mention a skill from the attunement assignments. The therapist gives them the homework to apply that skill at least once a day. Jim announces that he should practice his drumming skills. The therapist suggests that he can try using pencils on his pillows and bed and try to play fills and breaks after each 7 bars. The therapist tells the group that they will continue the next session with attuning exercises to meet their treatment goals, necessary to perfect 'Blue Suede Shoes'.

One has to realize, that practicing 30 minutes does not change patterns of inattention that have grown for years. These men have, however, been developing new paths in listening to one another, taking others into consideration and actively asking others to make changes, which after 10 weeks results in a mutual performance of this song, that meets the treatment goals.

6.1.2 Case 2: individual music therapy to enhance anger management

Ralph has been referred to music therapy due to his violent outbursts. He is convicted for double homicide, multiple violent

outbursts and knife-fights. He is highly intelligent, suffers from anti-social personality disorder and has been severely addicted to cocaine and speed. In an extreme rage, Ralph can destroy things in his direct surroundings without any inner warning (according to himself). In the living unit, group-workers and fellow-patients are very cautious towards him. Because music is probably less direct in triggering aggression and might help to gain insight into and control his anger, he was referred to music therapy anger management.

During the first four sessions, Ralph listens to his favorite music (rock, blues, romantic and avant-garde classical music). Ralph likes to talk about what happens in the living unit and what caused his offences. He states that he does not understand why people fear him or where his violent outbursts come from. Besides talking, he is also easily persuaded to make music and to play together. The therapist never requires him to do anything too difficult and always praises him for all his efforts; a therapeutic alliance of trust is built. He wants to learn to play the drum-set properly. He easily picks up more difficult assignments of coordinating his extremities while playing patterns and breaks on the drum-set. His hand-foot coordination is amazingly good. This is the starting point for working on his need-factor: anger-management.

In music therapy Ralph works on more active ways of decreasing his anger as soon as it floods him. He practices musically to stay in touch with the therapist while playing very loudly or very fast. He enjoys these exercises and transfers this skill to the unit by trusting group-workers to direct him to his room when it is perceived that he is becoming angry.

In close collaboration with the psychotherapist, the therapist decides to provoke musical situations that might offer Ralph some insight into his aggressive outburst. Slotoroff's (1994) drumming assignments were used in which the therapist disrupts his drumming. After the second beat on the drum Ralph stops the therapist, because he states that he is sensing tension. No physical or facial change is apparent. The therapist plays again and is stopped as soon as she decreases the volume with even a slightest drop in decibels. Ralph is astonished; such a small change in his expectation triggers his tension, after just a fraction of a second. He realizes that this happens to him all the time. He gets agitated as soon as something differs even slightly

from what he expects. He just ignores or even blocks out this onset and thereby becomes completely unaware of the process of rising tension. He is suddenly aware of how easily he is angered and triggered into aggressive outbursts. With this insight he returns to the unit.

During the weekend Ralph had a such a dramatic aggressive outburst, that he is placed in solitary confinement. The staff only approach him with four men wearing helmets and shields. He kicks and lashes out at anybody who comes near him. He refuses any medication to help him diminish his aggression. He refuses to talk to the psychiatrist, but lets her know that there is one thing that might help him to cool down: music therapy.

With every following contact Ralph repeats his demand. The staff decide that the music therapy might actually help Ralph decrease his rage. They negotiate with Ralph that he should behave for three consecutive days and use medication. Then on Friday afternoon he will be taken to music therapy. This gives the staff a couple of days to arrange safety precautions. Ralph agrees to this plan. He accepts medication, talks to the psychiatrist, and the psychotherapist, and behaves cordially to group-workers and guards. He stays in the confinement room.

Besides physical alarm and guards on the lookout (in this case), the safety and security in the music therapy room should come from musical distance and the therapeutic alliance (see later). As soon as the music plays the next session, Ralph sits back and tension leaves his body. Ralph starts talking about what happened over the weekend. He realized how fast he was angered and that he did not have the skills to stop this process. The rising tension is audible in his voice, visible in his body posture and the music therapist feels her own stress-level rise. To prevent guards from bursting into the music therapy room, or becoming victimized by Ralph's newly rising anger she decides to start making music with Ralph.

Ralph walks over to the drum-set. The music therapist sits down at the piano, so she can musically contain his drumming. He starts off with a really high volume, high-speed pattern. His face is grim, his body posture tensed. The music therapist can hardly hear herself play the piano, so she switches to the second drum-set in the music therapy room. She makes sure she stays as close to his volume and tempo as possible, while offering a holding for his drumming. After seven bars she plays a break, to create

a structure with rests. Ralph reacts by adjusting his rhythmical patterns to the eight bar measure. They play for over thirty minutes straight. The music therapist prevents any intensification, so the music does not get faster or louder. Ralph continues to play with the same intensity (musically and physically). When fatigue sets in techniques of calming are applied (decrease of volume and deceleration). Ralph hears the change and follows the tempo and volume. His face and body become more relaxed with every softer beat.

After a pause of about 30 seconds Ralph sighs and states that the music therapy helped him even better than he had hoped for. He has the feeling that the rage has vanished. The music therapist realizes that Ralph's tension has only diminished for the moment.

6.2 Forensic psychiatry; risks, needs and effective treatment

According to the American Academy of Psychiatry and the Law (2005): "forensic psychiatry is a subspecialty of psychiatry in which scientific and clinical expertise is applied to legal issues in legal contexts embracing civil, criminal, and correctional or legislative matters." In Europe forensic psychiatric patients are mainly offenders who are placed under a code of law and sentenced to mandatory hospitalization (Gutheil, 2004). These patients are sentenced for committing a violent crime (e.g., rape, child molesting, armed robbery, manslaughter, or murder). Due to their psychiatric or psychological disorder these offenders are held to be not, or only partly accountable for their crime (Van Marle, 2002).

About 40 percent of the patients are diagnosed with cluster B personality disorders (antisocial, narcissistic and borderline). More than one-third suffer from psychotic episodes or schizophrenia (Van Nieuwenhuizen, et al., 2011). In most cases, co-morbidity is a core problem because almost all patients have various disorders imposed on these primary diagnoses (Van Gemmert & Van Schijndel, 2011). The most common (80 percent) sub-diagnosis is an addictive disorder (Van Nieuwenhuizen, et al., 2011).

The highly complex mixture of disorders and offences makes treatment complicated. Forensic treatment goals can be divided into two objectives. The first main objective is to protect society from individuals who might threaten society's safety. The second main objective is to treat forensic psychiatric patients in order

to prevent them from recidivism into (violent) offences (Douglas Broers, 2006).

From a theoretical perspective, forensic psychiatric treatment leans on the risk-need-responsivity model (RNR, Bonta & Andrews, 2007) and Good Lives model (Ward & Brown, 2004) related to the violent offence. According to RNR, each forensic patient has to be assessed on the factors that influence his personal relapse and offence risk. Major *risk factors* that contribute to the probability that a forensic psychiatric patient relapses into a violent crime are: (a) a history of antisocial behavior, (b) antisocial personality, (c) antisocial cognition, (d) antisocial associates, and (e) substance abuse (Andrews et al., 2006).

Studies also suggest that changes in factors affect the probability of an offence-relapse. Andrews et al. (2006) reviewed a large number of meta-analyses with respect to risk factors and positive outcomes of treatment. They suggest that treatment goals for forensic psychiatric patients should focus on: “building problem-solving skills, self-management skills, anger-management and coping skills, reducing substance abuse, creating (inter)personal support (...) and enhancing alternatives to drug abuse” (Andrews et al., 2006, p.11). These are the “*need-factors*”. Ward and Stewart (2003) propose that the criminogenic needs of patients can be met most effectively if their human needs (such as positive self-esteem, positive values) are met as well, which resulted in the so called “Good Lives Model” (GLM, Ward & Brown, 2004).

Several preconditions must be met to optimize the conditions for an effective treatment of forensic psychiatric patients. The current state-of-the-art in research suggests that a cognitive behavioral approach is most effective in the treatment of forensic psychiatric patients (Allen, MacKenzie, & Hickman, 2001; Hollin, 1999; Landenberg & Lipsey, 2005; Marshall & Serran, 2000; Timmerman & Van Emmelkamp, 2005; Wormith et al., 2007). The common emphasis in the cognitive behavioral approach in forensic psychiatry is the “what works” principle (Hollin & Palmer, 2006). These treatments include, among others, “Reasoning and Rehabilitation,” designed for clients with mental disabilities (Ross & Fabiano, 1985), “Moral Reconciliation Therapy,” (Little & Robinson, 1988), and “Aggression Replacement Training” for juveniles designed by Goldstein and Glick (1987).

However, the need-factors are not always easy to influence

(Polaschek, 2011; Walker & Bright, 2009; Ward & Stewart, 2003; Wormith, Althouse, Simpson, Reitzel, Fagan, & Morgan, 2007). Moreover, ethical principles of treatment integrity may sometimes prohibit meeting the criteria (Polaschek, 2011). Finally, ‘what works’ on a meta-analytic level does not always work at the level of the individual forensic psychiatric patient, or may even have reverse effects (Hubbard & Pealer, 2009; Pawson & Tilley, 1997). One of the main reasons is that, due to their mandatory hospitalization, forensic psychiatric patients are often unmotivated to participate in treatment. Therefore, a third important type of factor taken into account is the “Responsivity” of the client (Bonta & Andrews, 2007). The responsivity principle is to “Maximize the offender’s ability to learn from a rehabilitative intervention by providing cognitive behavioral treatment and tailoring the intervention to the learning style, motivation, abilities and strengths of the offender.” (Bonta & Andrews, 2007, p. 1).

Polaschek (2011), Walker and Bright (2009), and Ward and Stewart (2003) suggest that forensic patients’ responsivity is optimized when the need factors of forensic psychiatric patients are addressed at different levels. Responsivity can be enhanced if patients are addressed at their own level of readiness for treatment (Polaschek, 2011), for example through appealing to the patient’s interest (Ward & Stewart, 2003; Ward et al, 2007). Polaschek (2011) proposes to use multi-modal treatment and to offer individual treatment if a patient has a poly-problematic background, for example a personality disorder, low self-esteem, a history of abuse, and drug abuse (Hubbard & Pealer, 2009).

6.3 Cognitive behavioral music therapy in forensic psychiatry

For many forensic psychiatric patients, therapy is an obligation but music could work as motivator, inspirer, reinforcement, or even ‘seducer.’ It often meets the responsivity criteria. Music therapy can be a part of the multi-modal treatment used in forensic psychiatry (Coddington, 2002; Polaschek, 2011).

Music therapy has to meet the standards of forensic psychiatric treatment to be effective. Therefore music therapy in forensic psychiatry tends to be cognitive-behavioral, addressing the need-factors, targeting the risk factors by appealing to patients’ responsivity to music.

Music has a unique characteristic, as demonstrated by Paltsev and Elnor (1967), and Rossignol and Melvin Jones (1976). “Sound

can arouse and raise the excitability of spinal motor neurons mediated by auditory-motor circuitry” (Thaut, Kenyon, Schauer, & McIntosh, 1999, pg. 101). In other words, muscles prepare themselves better for any action when primed by an auditory cue. Music makes people responsive for action. It taps into the responsiveness of patients.

In general, music works as a (primary) reinforcer as well (Peretz, 2010) (See neurological foundations below for details). In addition to the positive feedback from the music therapist, reinforcement often originates from both making music and the music itself. Patients often experience success while making music. These positive experiences may represent quite an achievement for forensic psychiatric patients who lived in, and grew up under, very rough and quite damaging circumstances. The experiences could evoke a more positive self-esteem, and thus contribute to criteria in the GLM (Ward & Brown, 2004).

Most music therapists in forensic psychiatry report that they apply a cognitive behavioral approach (Coddling, 2002). The treatment goals they set predominantly focus on need factors (Bonta & Andrews, 2007), such as: building self-management skills (Hoskyns, 1995; Watson, 2002), problem-solving skills (Rickson & Watkins, 2003; Wyatt, 2002), aggression or anger-management (Crimmins, 2010; Fulford, 2002; Hakvoort, 2002) and coping skills (Dijkstra & Hakvoort, 2006; Hakvoort, 2007a, 2007b; Reed, 2002). Some music therapy programs pay specific attention to promoting alternative behavior to drug abuse (Dijkstra & Hakvoort, 2010; Gallagher & Steele, 2002; Silverman, 2003, 2010).

From a cognitive behavioral perspective, music therapy focuses on the (musical) behavior of the patient. Indeed, patients demonstrate different behaviors during music therapy: musical, verbal, as well as physiological, motor, psychological, emotional, cognitive, perceptual, and autonomic behaviors (Wigram et al., 2002). These behaviors are observed and interpreted through the music therapists' knowledge of music, musical behavior and music therapeutic diagnoses, as well as information taken from the judicial inquiries, psychiatric and psychological observations and diagnoses (Coddling, 2002; Hakvoort, 2007a). Behavioral patterns that might be interpreted as risk factors are distilled, and need-factors are formulated. Each of these needs is formulated in terms of goal-oriented target behavior.

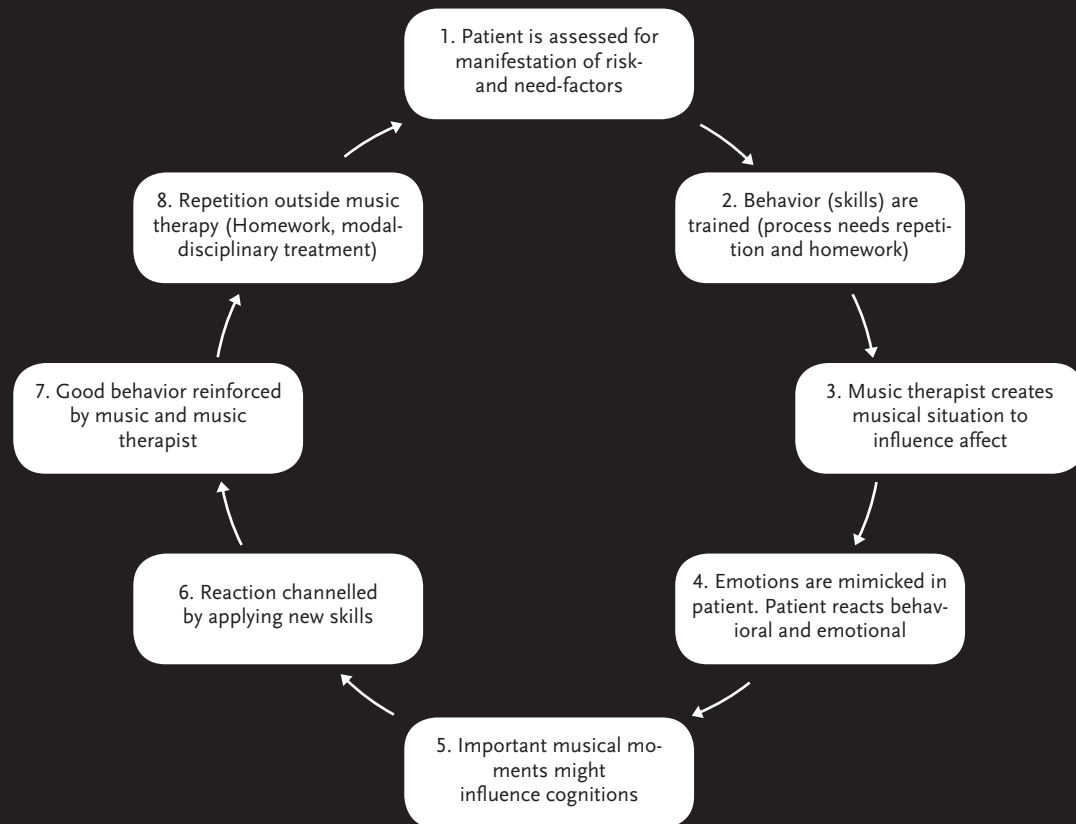
6.4 Cognitive behavioral music therapy model: the theoretical assumptions

Cognitive behavioral music therapy in forensic psychiatry implies that music is applied to alter the behavior of forensic psychiatric patients in order to meet their need and risk factors. Thaut and Wheeler (2010) suggest that a therapist's awareness of, and ability to handle the neurological and physiological potentials of music are important preconditions for a successful music therapy process. During music therapy, the music therapist has to create situations, which inflict primary affective responses in the patient. Moreover, the music therapist has to develop further the patient's primary affective responses into a new repertoire of cognitive and behavioral responses. The development of responses can be reinforced with the help of the patient's neurophysiological arousal response in the brain. During practice, repetition, and homework assignments, this learning cycle could change a patient's behavior (Thaut & Wheeler, 2010).

In cognitive behavioral music therapy, in line with the cognitive behavioral approach in general, the music therapist deploys music in specific ways to elicit core elements (the reinforcement of appropriate behaviors, experimenting with new behaviors, adjusting incorrect thoughts, relaxation and role-playing (e.g., Landenberg & Lipsey, 2005; Linehan, 1993; Walker & Bright, 2009)). First, patient's target behavior is assessed during music therapy; risk- and need factors are compared to the primary indication. Secondly, patients are trained through musical assignments to acquire new skills. Thirdly, musical assignments are employed to provoke musical and behavioral reactions of patients. Musical situations are created in order to stimulate patients to modify their behavior. The repetition of experiences helps patients to adjust more rapidly to new, often stress-enhancing, situations. Figure 6.1 offers an overview of the treatment cycle that music therapists apply in a cognitive behavioral music therapy in forensic psychiatry.

Step 1. The first step is to assess and observe the risk and need-factors of the patient being referred to music therapy and to judge if the risk or need-factors are really demonstrated, either during the intake or the process of making music. If this is not the case, music therapy is not the indicated treatment.

Figure 6.1. Cognitive behavioral music therapy model



Case application. Case 1. Ron, Pete and Ben are unable to listen to the group. They are either completely absorbed with themselves or by a single other person. They need to expand their skills to be aware and stay attuned to other people.

Case 2. Ralph becomes tensed as soon as he is making music.

During *Step 2* the music therapist trains patients to acquire new competences, practicing his need factors musically as well as behaviorally. These competences are trained while making music. Common competences that are practiced in therapy vary from the expression of emotions in different ways (Hoskyns, 1995; Watson, 2002), the development of specific coping skills (Dijkstra & Hakvoort, 2006, 2010; Reed, 2002), training executive functions (Hakvoort & Dijkstra 2012), expansion of social skills, or psychosocial functions (Rio & Tenney, 2002), competences in anger management (Drieschner, 1997; Hakvoort, 2002), to the development of conflict management skills (Zeuch, 2001, 2003; Zeuch & Hillecke, 2004). The transference of these musical skills to daily life is promoted through homework assignments.

Case application. Case 1. Ben, Ron and Pete practice social and attunement skills for 30 minutes. They practice them while playing djembe with various slight adjustments to make the exercises musically attractive. If social skills were trained by role-playing (commonly used in cognitive behavioral therapy, e.g., Linehan, 1993), the patients would have become fed-up after a number of practices. Because the music keeps sounding (and rewarding) and can be adjusted to easier or more difficult rhythms, Ben, Ron and Pete are stimulated to keep rehearsing those skills.

Case 2. Ralph is practicing guided winding-down techniques; techniques in which another person has to help him with diminishing his rage. This can be a first step in training anger management techniques.

Steps 3—5. If the patient demonstrates his ability to apply new skills during training, the music therapist moves on to the next step. The therapist creates musical situations that evoke specific behaviors in a patient (Hakvoort & Smeijsters, 2006; Smeijsters & Cleven, 2004). These musical risk situations include experiences of moments of defeat, feelings of powerlessness, rejection, boredom or other stressful events (Hakvoort, 2007a). Studies on

music and emotions show that the process of making music does not evoke actual emotions in patients, but only mimics emotional reactions (Juslin et al., 2010; Koelsch et al., 2006; Konečni, 2010) (see paragraph on neurological foundations). The musical situation and mimicked emotions do however provoke reactions in the patient—which is step 4. Step 5 allows the patient to become aware of his reactions, perceptions, thoughts, and behaviors in the created musical situation. The distance created by making music can make it easier for patients to come to grips with their expressed behavior. They can perceive the situation to be ‘just about playing music’. This allows them to project negative reactions and inadequate behavior in the music, without ethical consequences.

Case application. Case 2. Ralph is not aware of the onset of his aggressive outbursts. The music therapist applies Slotoroff (1994) drumming techniques. This provides Ralph with an insight into how he blocks his anger. In the next session, Ralph is extremely tense when coming to music therapy; the advantage is that he hits the drum-set instead of a person. His lack of impulse regulation is expressed in the music. He is not confined for this anger nor re-offends.

Steps 6 and 7. In *step 6*, musical confrontations are further expanded and repeated to stimulate the patient to demonstrate that he can apply the new competences independently. Often, patients also experience their limitations during this stage. In *step 7* the music therapist provides guidance through verbal, social and musical techniques to reinforce the correct behavior of the patient (as trained in *step 1*). The therapist ensures that the music after each musical confrontation suits the patient needs, for example by adjusting harmony, tempo or volume.

Case application. Case 1. The music therapist addresses the executive and social functions of the patients (planning, listening, attuning to one another). She offers the possibility to ask other people to change single aspects of their behavior. Subsequently she enables the patients to apply and practice newly acquired competences.

Step 8. However, a patient has to be able to apply his newly developed skills during daily life, not only in music therapy. *Step 8* consists of the music therapy homework assignments to transfer competences to daily life. This process needs modal-disciplinary attention from music therapist, patient, and the complete treatment staff (Hakvoort, et al., 2012).

6.5 Neurological foundations for effects of music

Following Clifton’s (1983) phenomenological definition ‘music’ is defined as ‘sequences of sounds and silences that the receiver organizes into a meaningful form’. The sequences of sound consist of musical parameters, such as: tempo, duration, rhythm, pulse, dynamics, melody, bass-line, harmony, and composition. The way the therapist and patient organize these sequences of sounds into a meaningful form is influenced by their individual perceptions of music, their individual actions in music, as well as the interaction between these perceptions and actions.

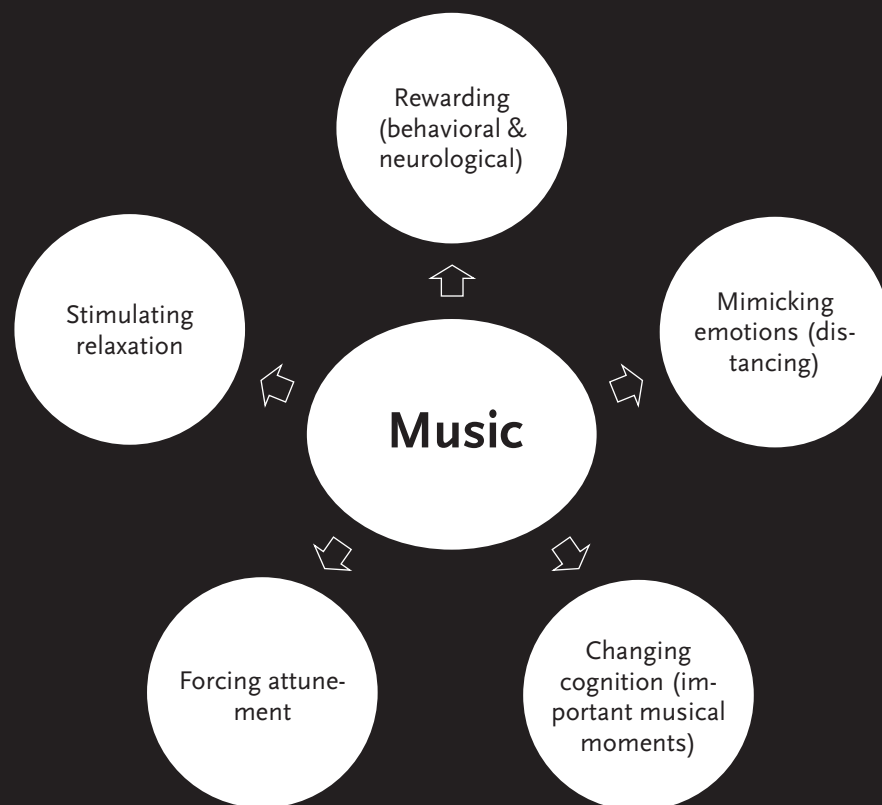
During treatment a music therapist is aware of the function of the (preferred) music of the patient (Bushong, 2002). Does this music help the patient to unwind, to get aroused, to think about past events, to keep one’s mind from wandering or is it even ‘dangerous’ music (Horesh, 2003), evoking feelings such as craving or revenge? There exists neither ‘good’ nor ‘bad’ music; people can only use or have learned to use music in such a way that it can help them or harm them (Garofalo, 2010).

Recent research suggests that the brain as a whole reacts to music (Alluri, et al., 2012). It is evident by now that music influences the brain on many different levels. Many psycho-physiological reactions are stimulated or provoked by music. Hodges (2010) provides an overview of studies on a wide array of such reactions. In addition, music has neurological influences too. Specific parts of the brain are activated, or calmed, by music. Figure 6.2 presents five major neurological and psycho-physiological influences of music that are often used in cognitive behavioral music therapy in forensic psychiatry: (1) reward system, (2) emotions, (3) cognitions, (4) forcing attunement, and (5) stimulating relaxation.

6.5.1 Reward system

Blood and Zatorre (2001) report that listening to music increases the activation of the vertical striatum, which includes the

Figure 6.2. Neurologic foundation of music
Main neurologic and physiologic reactions of humans on music as applied during cognitive behavioral music therapy in forensic psychiatry.



nucleus accumbens: the “human reward system.” Stefano Zhu, Cadet, Salamon, and Mantione (2004) report a higher amount of dopamine and endorphins in the blood of people who listen to music. Harmonious music particularly increased the release of endorphin hormone (Hodges, 2010). Blum, Chen, Chen, Madigan, Downs, Waite, Braverman, Kerner, Bowirrat, Giordano, Henshaw, and Gold (2010) suggest on the basis of a meta-analysis that music might even stimulate the production of certain dopamine in receptors (DRD2) for people who are deficient in these receptors. Quite a number of forensic psychiatric patients seem to suffer from this syndrome (Ogilvie, Stewart, Chan, & Shum, 2011). If music by its nature triggers the brain’s reward system, it is no wonder it often works as a strong motivator for patients who are generally not motivated to engage in therapy.

Case application. Case 1. Music as reinforcer is described when all patients are ‘beaming’ when they finally complete a song as one group together. The satisfaction and relaxation are the result of creating music that was rewarding for the patients.

6.5.2 Emotions

The opinion that music affects people is primarily founded in the perception of people that music influences their emotions. When playing music the musical parameters help a musician to structure his musical expression. Tempo and loudness are important for the intensity of the music (Gabrielsson & Lindström, 2010). Konečni, et al. (2007), however, report that music does not cause emotions, but only influences physiological processes that are similar to emotions. Juslin et al. (2010), interpreting Koelsch et al. (2006), suggest that emotions do occur while listening to music because the brain mimics the neurological processes that the listener assigns to the perceived emotion in the music. Since music evokes emotions only indirectly (Konečni, 2010) it can be used in forensic psychiatry. Because emotions are not evoked, but primarily mimicked, a distance remains between real emotions and the musical ones. Due to this distance a music therapist can trigger relatively ‘dangerous emotions’; emotions that can be linked to offence behavior, such as feeling angry or humiliated. This distance is important to create learning effects and an awareness of emotions in patients while still establishing a work environment in which a music therapist can work with

such emotions without becoming victimized (see the part on the therapeutic alliance for preconditions).

Case application. Case 2. Ralph's rage is not directed towards the music therapist, but projected into the music. His anger is visible in his posture and audible in volume and tempo. But the anger is mainly musically mimicked. Its focus stays within the music and is not directed at the therapist.

6.5.3 Cognitions

In the cognitive behavioral approach to music therapy, music is the vehicle for change. Gabrielsson (2010) found that strong experiences through music (listening) changed subjects' cognitions, especially their attitudes and the experience of the situation. The cognitive changes that occurred (for example insight in one's feelings) tended to increase if the music differed from the expectation of the subject. If the subjects experienced a loss of control during the musical situation, they reported gaining more understanding of their needs and possibilities. During music therapy the music therapist constructs musical situations in which this shift in awareness can arise (see 1.5.3 for further details).

Case application. Case 1. Ben has to rely on his ears for a musical stability in pulse. He loses visual control. The music however brings him straight into the musical pattern and he can hear himself and the others at the same time.

6.5.4 Attunement skills

Music also affects the social skills of a person. In the first place, music forces an interaction between a performer and a receiver—even if this is the same person. In the second place, music automatically influences the biological pulses of the body (Peretz & Zatorre, 2005). Beats and metre affect the pulsing of the brainstem (Peretz & Zatorre, 2003) even before entering any other part of the brain. Nistri et al. (2006) report that music influences the cerebellum as well. Music triggers the brain to attune to the same pattern. For example, Winkelmann (2003) found a synchronization of brainwaves between his (addicted) subjects during drumming assignments and Sanger, Muller and Lindenberger (2013) for people who listened to or played the same music together. Executive functions—such as attuning to

others, keeping attention focused on a common, non-criminal goal, and listening to one another—are often damaged in forensic psychiatric patients (Ogilvie et al., 2011). Studies show, however, that during music therapy these functions can be trained (Thaut, 2005; Thaut et al., 2009). So a music therapist can affect the social skills of a patient through music.

Case application. Case 1. Ben, Ron and Pete are not capable of tuning-in musically. They practice imitating drum-patterns, playing decrescendos. These are all skills that people use to stay attuned to one another. They even enjoy practicing these skills, due to its musical context.

6.5.5 Relaxation

Music has been shown to reduce the activation of the amygdala (Blood & Zatorre, 2001). This result provides a neurological foundation for the well-known effect that music enhances relaxation. Stefano et al. (2004) found that personal preferred relaxing music changes the natural opiates in the blood. Patients learning to use relaxation techniques with music might intensify their relaxation, which is an important part of cognitive behavioral therapy. During music therapy anger management training, enhancing relaxation is an important assignment that is practiced as homework in the patient's room as well.

Case application. Case 2. Ralph is practicing relaxation through guided calming and deceleration of his drumming. He is guided by the music therapist in this process, because he is not yet capable of applying these techniques by himself. By prompting Ralph through music to slow down, the music therapist evokes calming of the activation of certain parts of Ralph's brain. Thus leading to a more relaxed state as witnessed by the music therapist and noticed by Ralph after he has finished playing.

6.5.6 The therapeutic alliance; safety and transference

Although many forensic psychiatric patients are quite reluctant, they have to get involved in treatment to reduce their risk factors and to prevent them from a relapse into violent crime. Obviously, music is not the only important element in the forensic music therapy process, the role of the music therapist has another aspect. Therapeutic alliance between the therapist and

patient is equally important (Marshall & Serran, 2004). According to some scholars, between 25 percent (Lambert & Bergin, 1994) and 80 percent (Duncan, Miller, Wampold, & Hubble, 2010) of the positive outcomes of therapeutic treatment arises from the patient's belief in the therapist. The patient's positive attitude amplifies his strengths, and helps him to grow psychologically (Esch & Stefano, 2004). Patients often respond well to music, but the intervention of a credentialed, well-trained music therapist is a precondition for a successful musical intervention process.

Because treatment in forensic psychiatry services dual objectives (prevention and treatment; prison and hospital), the music therapist role is dual too. On top of treating patients and helping them in their need factors, the music therapist advises the staff (to a certain degree) about the presence of risk factors and level of developed need-factors.

The specific characteristics of many forensic patients—such as defensive and oppositional behavior, irritability, hostility, anxiety, cruelty, self-centeredness, and insensitivity (Ross, et al., 2008)—often make it difficult to build a good functioning therapeutic alliance. Each therapist in forensic psychiatry has to deal with many, at times conflicting, emotions and feelings. When the therapist is (too) confrontational or adopts an unconditional approach, treatment may result in reverse effects (Marshall & Serran, 2004). Ross et al. (2008) and Marshall and Serran (2004) suggest that a therapeutic alliance in forensic psychiatry can be best achieved by creating an encouraging and supportive setting in which the therapist holds an empathetic attitude, using encouragements, rewards and a directive approach.

The music therapist works towards behavioral change. Those changes are often difficult to reach and provoke fear and anger in the patient. The music therapist has to be sensitive in this process and at the same time firm in its limits and boundaries and should be aware of his or her own fear and anger. In the music therapy setting, the (musical) situation defines how to react when such feelings are provoked. Jackson (2010) found four major models that capture the reactions of music therapists on the anger of their patients: (1) Redirection: switching to another musical form or song; changing instruments; termination of the session. (2) Validation: recognizing the presence of fear or anger in the patient and allowing these emotions to be expressed (musically). (3) Containment: encompassing these feelings musical-

ly; assisting the patient in getting a better grip on his emotions; directing these feelings into a safe and manageable situation. (4) Reflection: switching to verbal discussion.

Case application. Case 2. The music therapist redirects Ralph in the last described session to play when she observes his rising anger. In the first instance she recognizes Ralph's anger on the drum by supporting him on the piano. However she judges that this recognition will not be enough; the rage might overpower them both if she cannot contain Ralph's music. Therefore she switches to the second drum-set. Now she can contain his music and later channel him into a safe rounding up. The music therapist judges that there is no room or time for further reflection.

In short, to create a most optimal therapeutic alliance, the music therapist in forensic psychiatry has a number of musical techniques at her disposal in addition to common psychotherapeutic techniques. Music therapists mix structure and flexibility with support and directness. Aware of her own feelings, the therapist should create and maintain a positive environment, which allows her to shift between verbal, behavioral and musical assignments and interventions.

6.6 Conclusion

Music therapy seamlessly fits into the risk-need-responsivity model of Bonta and Andrews (2007) and Good Lives Model of Ward and Brown (2004) for treatment purposes in forensic psychiatry. Music therapy has a foundation originating from more than one perspective. By virtue of its potential for entertainment, music automatically appeals to many forensic patients. It encourages their responsiveness to treatment and primes attentiveness and action in the human musculature. Risk factors can be observed and explicitly addressed through music, as an additional and alternative treatment modality. Music creates a neurological and physiological 'distance' between the patient's actual emotions and the way the patient musically acts them out. This 'distance'—the awareness of "just making music"—is very helpful in the clarification and treatment of otherwise very difficult, or even very dangerous, emotions, cognitions and behavior. The music therapist guides the patient through the musical process, in order to meet the forensic patient's need-factors. As demon-

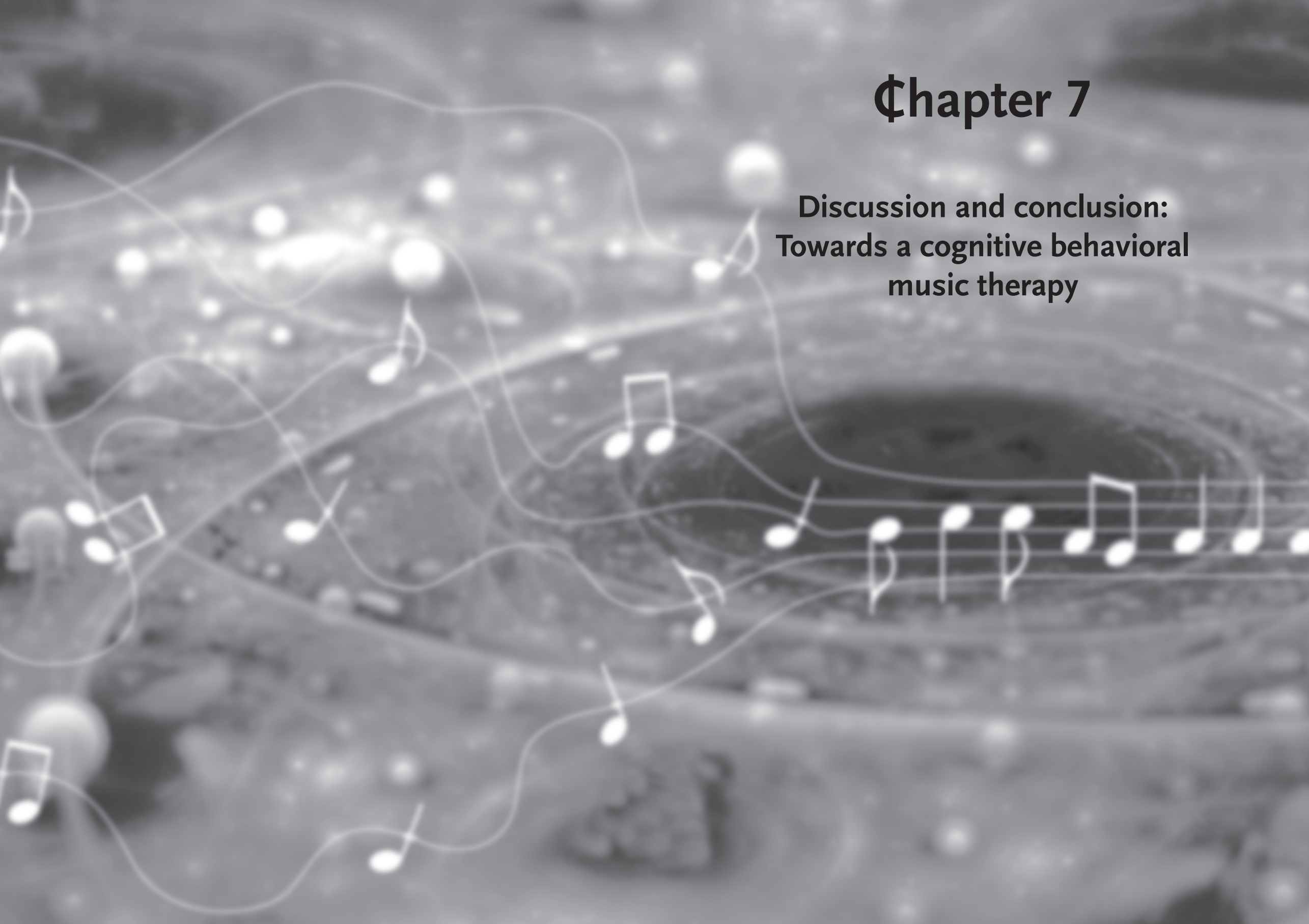
strated in the cases, patients are able to practice newly acquired skills musically in a safe therapeutic environment, before they apply them in daily life. Music therapy offers structure, has the potential to contain dangerous emotions and behavior of forensic patients, and provides safety for both patient and therapist. A proper multi-modal treatment, and close collaboration between all staff-members further assists the patient to transfer his newly acquired skills into daily life, at first in the unit, and later possibly back in society.

Not all patients benefit from music therapy treatment in forensic psychiatry. First the need-factors and treatment goals, which have to be addressed, should fit logically within the five neurological foundations of music therapy; otherwise music will not enhance any development. Secondly the pathological behavior should be present in the musical behavior of the patient. Thirdly the patient should meet responsivity-factors towards music. Only a proper assessment in music therapy can provide a conclusive judgment of these three aspects. If a patient meets these three criteria, cognitive behavioral music therapy can be implemented in the modal-disciplinary treatment of a forensic psychiatric patient.

Cognitive behavioral music therapy stimulates patients to learn and practice new skills, confronts them with old habits and cognitions and offers the opportunity to develop new behavior. Music is implemented to trigger neurological processes in the brain to support these behavioral modifications. Future research has to investigate whether music therapy for forensic psychiatric patients is effective. Yet, without understanding the 'what works' principles of music therapy, research cannot explain what mechanisms in music and music therapy influence the behavior of forensic psychiatric patients.

Chapter 7

**Discussion and conclusion:
Towards a cognitive behavioral
music therapy**



Discussion and conclusion: Towards a cognitive behavioral music therapy¹

¹ The author wants to acknowledge especially dr. R. Torenvlied for his remarks on an earlier draft.

The current field of music therapy research is characterized by a dominant predisposition, which is implicit or explicit in almost all studies. This predisposition is that music therapy is particularly suited to improve the well-being of its patients. The field of forensic psychiatry is no exception. For example, a recently submitted Cochrane protocol—proposing a meta-analysis of effectiveness studies of music therapy in offender treatment and forensic psychiatry (Chen et al., in review)—defines the core treatment goals of music therapy in the forensic context as the mental health issues of forensic psychiatric patients or offenders. These mental-health issues are, among others, building self-esteem, empathy, and an improved concept of self. Research results in the field of medicine suggest that music therapy could contribute to an improved quality of life of patients. For example, the Cochrane review on music therapy in the medical setting (Dileo & Bradt, 2005) suggests that patients benefit from music therapy—not treating the cancer or cardiac problems directly, obviously, but as a secondary treatment goal: reducing anxiety, relieving the experience of pain, and improving the general quality of the life of patients.

The present dissertation takes an alternative point of departure. Obviously, improving the general well-being of forensic patients and offenders is a human right (Article 22, 25 and 26 of the United Nations Declaration of Human Rights, 1948) and therefore an important treatment goal in forensic psychiatry. However, improving self-esteem, well-being, and empathy of forensic psychiatric patients are conceived as secondary goals in the field of forensic psychiatry—at least according to the evidence-based practice that is the core of the state-of-the-art research in this field (Andrews et al. 2006; Bonta & Andrews, 2007). The main argument of the present dissertation is that music therapy—approached from a theoretical and empirical perspective, and a cognitive-behavioral perspective, could offer more promise for the treatment of forensic offenders than accommodating the secondary treatment goals for this population.

In order to take this step forward in the development of the field, we should move beyond the limits of current theoretical explanations in music therapy—such as offered by the recent

Cochrane review—and develop an alternative theoretical foundation for the treatment of forensic psychiatric patients with respect to the primary goals in forensic psychiatric treatment. These goals comprise among others: the expansion of coping skills, anger management, aggression regulation, or the replacement of substance abuse behavior. The present dissertation proposes that music therapy could have the potential to ensure such behavioral changes in forensic psychiatric patients—changes that may ultimately help them to reduce the probability of lapse and relapse; changes that may prepare them for a safe return in society.

7.1 Recapitulation of the main research question

The main goal of the present dissertation was to theoretically and empirically explore underlying mechanisms of music therapy treatment in forensic psychiatry. To offer an alternative proposition the connection with results of research in the field of forensic psychiatry and in the field of music therapy was considered. This dissertation tried to examine some of the fundamentals and assumptions underlying the current preliminary theoretical framework of music therapy treatment in forensic psychiatry. Instead of focusing on a psychotherapeutic explanation for the applicability of music therapy in the forensic setting—which is the dominant focus of many music therapy scholars in the field—we focused on the evidence built within the field of forensic psychiatry. The core of the theoretical and empirical evidence built in the field of forensic psychiatric rehabilitation points at the “what works” risk, need and responsivity (RNR) principles. Additionally we focus on results that arise from natural science approaches and results of (explorative) research.

From these considerations the main research question of this dissertation was formulated, stating: “Can we create a theoretical framework—through literature review as well as empirical research—that explains possible effectiveness of music therapy within forensic psychiatry by validating core assumptions of the risk-, need and responsivity principles as well as musical ones for forensic psychiatric patients with personality disorders as their primary psychiatric diagnosis?”

Different studies (literature studies, theoretical work, practical work and empirical studies) were conducted to address four sub-questions that were derived from the main research ques-

tion. The answers to the sub-questions were presented in chapters 2 through 5. This final chapter 7 summarizes the results presented by each chapter and combines the answers to each of the sub-questions into an overall conclusion. Chapter 6, which provided an important part of the answer to the main research question of the present dissertation, will be summarized again. This summary will be put into a proper perspective, discussing the limitations and the strength of the present study. Chapter 7 will close with a discussion of the implications of this dissertation study for the theory and practice of music therapy as a goal-oriented intervention strategy in forensic psychiatry.

7.2 Recapitulation of results

This section recapitulates the research (sub) questions, propositions, musical mechanisms, therapeutic interventions, and results of each of the chapters 2 through 5. Table 7.1 summarizes the most important features and results of each chapter.

7.2.1 Assessment of risk-behavior

The second chapter of this dissertation reported about the first sub-question whether from a combined theoretical and measurement perspective, it is possible to observe offence related behavior in musical behavior during assessment.

The proposition that we are able to observe offence related behavior in musical behavior is one of the core assumptions in the theory of analogy. To start, a literature study was conducted combined with the presentation of a number of case vignettes. Insight in existing theories about music therapy in general and more specifically when focusing on forensic psychiatric offenders were described to define a number of primary theoretical assumptions. The second chapter also offered practical insights in the theory of analogy, and discussed important issues for music therapy that should be taken into account when assessing patients in forensic psychiatry.

The core theoretical assumption derived from the theory of analogy, which underlies any assessment/observation program in music therapy for forensic patients is that patients demonstrate outer-musical behavior in musical situations. In brief, there is an assumed similarity between reactions of a patient while making (improvised) music and his reactions while functioning in daily life more specifically in this study, the living unit. Chapter 2 discussed

Table 7.1. Characteristics and results in theory building on music therapy in forensic psychiatry of each chapter

	Research (sub)question	Main proposition	Core assumption	Musical mechanisms		Therapeutic interventions	Design method	Results
Chapter 2	Is it possible to observe offence related behavior in musical behavior during assessment?	One can observe offence related behavior in musical behavior during assessment.	Theory of Analogy provides explanation for music therapy assessment and treatment.	Containing power of music; Music as reinforcement and to trigger cognition		Assessment assignments to trigger outer-musical behavior (risk & need factors)	Six case vignettes; literature study; preliminary theory building	Conduct behavior, coping skills (need factors); offence related behavior (risk factor) can be observed. Difference and similarity in habitual and situational behavior. Step 1 through 5 of the Cognitive Behavioral Music Therapy Model
Chapter 3	Can we find convincing empirical evidence for the theory of analogy?	Theory of Analogy can provide an explanation for music therapy treatment.	There is conformity between behavior demonstrated during <i>music therapy</i> and <i>daily life</i> .	Music to trigger; emotion, attunement, cognition		Assessment assignments to trigger outer-musical behavior (risk & need factors)	Comparison between music therapy and sociotherapy N=20; literature study; theory falsification; One case vignette	Observed similarities: overall dysfunctional behavior & verbal behavior Non-observed similarities: assaultive, interpersonal behavior, positive & avoidance coping skills Theory of analogy → careful use recommended
Chapter 4	How to develop a music therapy intervention program that is based on the core assumptions of the RNR model?	Music therapy can facilitate to build need factors, like anger management skills of forensic psychiatric patients.	Due to characteristics of music a motivating music therapy anger management program can be designed.	Motivating (rewarding), relaxation, containing music; music to trigger emotion, attunement, cognition		Treatment assignments to trigger and expand outer-musical behavior (need factors) such as anger or aggression management, coping skills	Three case vignettes; literature study; expert discussion (triangulation); treatment model/program building	Standardized music therapy anger management program for music therapist for forensic psychiatry. Manual for music therapy anger management program including goals, objectives, musical assignments, therapeutic attitudes (not included in the dissertation).
Chapter 5	Can we find empirical evidence for effectiveness of a specific music therapy intervention program for forensic psychiatric patients?	Music therapy can effectively build anger management skills of forensic psychiatric patients.	Due to characteristics of music the music therapy anger management program is motivating for change.	Motivating (rewarding), relaxation, containing, training music; music to trigger emotion, attunement, cognition		Standardized treatment assignments to trigger and expand outer-musical behavior (need factors) such as anger & aggression management, coping skills)	Single-blind pre-post-test multi-center Randomized Controlled Trial N=14. Randomization by independent researcher	Overall dysfunctional behavior, interpersonal skills do not change. Assaultive behavior of both conditions improved. For experimental subjects: Avoidance coping skills and self-management psychiatric symptoms decreased (tendency). Positive coping improved significantly. Careful with conclusions.
Chapter 6	How can we further elaborate the theoretical framework that explains possible effectiveness of music therapy within forensic psychiatry?	Cognitive behavioral music therapy in forensic psychiatry can be provided with an theoretical and empirical foundation	Music therapy treatment can be effectively applied in forensic psychiatry.	Music can be systematically applied to motivate, reward, relax, contain, train, and trigger emotions, behavior, attunement, cognitions		Cognitive behavioral music therapy	Two case vignettes; literature study; elaborate theory building	Music therapy belongs within the risk-need-responsivity model when applied through an eight steps cognitive music therapy model using five neurological characteristics of music against the background of a safety building therapeutic alliance where the music therapist capturing extreme reactions of forensic psychiatric patients in music and direct their behavior to improvement of coping skills and anger management.

how an assessment of offence related behavior is possible within music therapy if one follows the assumption of analogy. To stay in synchronicity with primary forensic psychiatric goals a music therapeutic assessment would need to focus on three different ways forensic psychiatric patients function: (1) their offence related behavior, or so-called “risk principles”, (2) their coping-social/interaction-, conduct skills, or so-called “need principles”, (3) their “responsivity” to the music therapy intervention. The chapter described some of the musical mechanisms that reflect these ways of functioning. For example, music can be applied to trigger reactions within the safe boundaries of the music which is the “containing power” of music. Some behavioral reactions of patients which appeared within the music could be seen as observable risk principles (Bonta & Andrew, 2007). Because this risk behavior is contained in the music, it generates limited risks for the music therapist. A well-trained music therapist could even transform these reactions into confronting and awareness-provoking situations (music which triggers cognition).

Music therapists assess whether offense or risk-related behaviors could be observed in music therapy and therefore, as an indication criteria for music therapy, could be treated in music therapy as well. To assess whether offense or risk-related behaviors could potentially change as a result of musical assignments and interventions, a further assessment was made of the learning skills of the patient (“responsivity factors” with regard to music therapy). Chapter 2 illustrated how new skills were practiced in musical situations and further assessed for their applicability and transfer to daily life. The assessment comprised of specific assignments to assess the risks, the needs, and the responsivity principles of the forensic psychiatric patient—which is described by steps 1 through 5 of the cognitive behavioral music therapy model in chapter 6. In step 1. the patient is assessed for manifestation of risk- and need-factors. In step 2. new behavior (skill) are trained (with repetition and homework). During step 3. the music therapist creates musical situation to influence the affect of the patient. In step 4. music is created to mimic emotions in the patient. The patient might react behavioral and emotional; (step 5) the musical moments might activate cognitive reactions and can influence cognitions.

These steps resulted in a specific music therapy assessment program, which could be adjusted to the responsivity of an indi-

² The presented music therapy assessment program condensed to two sessions was applied for the assessment of the subjects in the empirical studies as presented in Chapter 3 and 5.

vidual forensic psychiatric patient². The case vignettes in chapter 2 illustrated how offence related behavior could be observed, as proposed by the modified version of theory of analogy in that chapter.

7.2.2 Empirical validation of the theory of analogy

From the results of the study in chapter 2, the question arose whether, and how, a similarity develops between reactions of a patient while making (improvised) music and his reactions while functioning in daily life. The analogy between musical behavior/ reactions and behavior/ reactions in other situations is a commonly applied assumption to justify the applicability of music therapy in general (Aigen, 2005; Smeijsters, 2005). This assumption is further developed in the theory of analogy (Smeijsters, 2005). From the theory of analogy follows the hypothesis that the observed and interpreted musical behaviors of forensic psychiatric patients show similarities with their outer-musical behavior, for example at the living unit.

To explore this hypothesis, the second sub-question was formulated asking from an empirical perspective whether empirical support was found for the theory of analogy—comparing musical behaviors of forensic psychiatric patients with their behaviors in daily life at the clinic. Chapter 3 further explored the theoretical propositions underlying the theory of analogy. A comparison was made between music therapy and socio-therapy. At the living unit, sociotherapists monitored the behavioral reactions of forensic psychiatric patients (that is: the subjects who volunteered to participate in this study) under stress-provoking circumstances, such as: disagreement, failure, rejection, and incapability. The behavior of subjects in the study at the living unit (as measured by the sociotherapists) was compared with the behavioral reactions of the same subjects under similarly stress-provoking circumstances during music therapy assessment (as observed by the music therapist). Measures for behavioral responses in stress-provoking circumstances included (both in music therapy and socio-therapy): coping skills, social dysfunction, aggression, assaultive behavior, interpersonal skills, self-management of psychiatric symptoms and substance abuse.

For each of the 20 subjects, scores of behavioral reactions during music therapy and at the living unit were compared. The results were not as conclusive as the theory of analogy would suggest. Statistically significant similarities were found with regard

to general dysfunctional behavior and verbal behavior. Patients might verbally communicate the same intentions at the living unit as well as during music therapy; for example social desirable answers or inability to mask their dysfunctional behavior. No similarities were found for assaultive behavior, interaction skills, or coping skills when comparing scores obtained from observations during music therapy assessment with scores obtained from observations at the living unit. These results suggest that forensic psychiatric patients may behave differently at the living unit than during music therapy. The difference in specific behavior may be explained by the fact that music therapy took place in an individual setting while patients function in group-settings at the living unit. The implication is that the theory of analogy must be applied very carefully. The Transformational Design Model (Thaut, 2005) stipulates that musical behavior in therapy has to be functionally and structurally equivalent to the nonmusical analogue. Only if an active transfer of musical behavior to daily life is reinforced, finding of analog behavior may occur. So, further (quantitative) research is needed to find the proper conditions under which the theory of analogy applies.

7.2.3 Development of a music therapy anger management program

The limited evidence supporting the theory of analogy in music therapy for forensic psychiatric patients implies that other theories should be consulted to address the main research question, that is: whether and how music therapy could contribute to the primary goal of behavioral changes in forensic psychiatric patients. Consequently, the third sub-question was formulated asking from an intervention perspective how to develop a music therapy intervention program that is based on the core assumptions of the RNR-model and utilizing and maximizing the characteristics of music therapy. Hence, the intervention program should be based on assumptions of how music therapy can effectively pool resources in the principles specified by the RNR-model for forensic psychiatric patients.

To address the third sub-question, chapter 4 turned the attention to evidence-based practice in forensic psychiatry. One of the important need factors of forensic psychiatric patients, according to Andrews et al. (2006) and Bonta and Andrews (2007), is anger management and aggression regulation. Behavioral change on the need factor anger regulation is a primary treatment goal

and addressed by different treatment modalities, such as verbal psychotherapy (e.g., cognitive behavioral therapy, or aggression management training), or psychomotor therapy. Chapter 4 described the development of a specific music therapy program that could facilitate the development of anger management skills of forensic psychiatric patients through music therapy. By means of an elaborate literature study, expert consultation meetings with a number of music therapists working in forensic psychiatry, and the exploration of several case vignettes, a standardized music therapy program was developed that aims to improve the anger management skills of forensic psychiatric patients that fits their optimal learning conditions (that is: appeals to their responsivity).

The program is designed to treat forensic psychiatric patients with personality disorder(s) and a malfunctioning anger management. The program builds upon general anger management theory and research, both developed within and outside of forensic psychiatry. Chapter 4 provides examples of conditions and assignments to create controlled anger generating situations. In these situations, the music is assumed to enable a patient to experience emotions of anger in a safe and controlled setting. The music therapeutic interventions stimulate the patient's awareness of his anger disorder, which aims to improve his cognitive skills. He also may as well expand his need-principles, such as coping skills. The music by itself is assumed to affirm a safe distance (both emotional and physical) between therapist and patient.

7.2.4 Effectiveness of forensic psychiatric music therapy treatment

Theoretically, the music therapy anger management program was based on the evidence-based literature on anger management programs in general and on forensic psychiatry in specific. However, there is hardly any evidence-based program on anger management available for music therapy and certainly not for forensic psychiatric patients. Therefore we investigated empirically whether we could examine the effectiveness of the music therapy anger management program.

This conclusion leads to the fourth sub-question of the present dissertation asking, from an empirical perspective, to explore the possibilities of music therapy as a promising treatment modality to influence coping and anger management skills of forensic psychiatric patients. Is it possible to detect change patterns in the behavior of forensic psychiatric patients, as specified in

the music therapy goals and the RNR-model? Chapter 5 presents a research design that was proposed to become a multi-center, pre-post-test, single-blind, randomized controlled trial (RCT), to study the effects of the music therapy anger management program. The design applied, involved for 3 years of research five music therapists from four different forensic psychiatric clinics in the Netherlands who treated volunteering forensic psychiatric patients (the subjects) with the specific music therapy anger management program. The subjects were assessed at the beginning and at the end of the research period, which was a period of six months. The pre- and post-test of each subject was video-recorded and scored by the music therapist as well as by an independent observer. The independent observer was unaware of the experimental condition of each subject (which was single blind). Subjects were randomly assigned to music therapy or to a waiting-list condition. All subjects received 'treatment as usual' in the clinic. Subjects assigned to music therapy received 20 individual one-hour sessions of the standardized music therapy anger management program in addition to the 'treatment as usual'. The focus of the music therapy interventions was placed upon the expansion of coping skills and anger management. Subjects assigned to the control group received a regular anger management program. The scores of the pre-test were statistically compared with the scores of the post-test.

Due to constraints on data collection, only thirteen subjects completed the pre- and post-test. The RCT design did not match reality; instead of the minimum of 42 subjects (the number of subjects calculates through a pre-research power-analysis), we could only included thirteen patients. One subject, after serving in the control condition for 6 months, successively completed 20 sessions of music therapy anger management program. So, a total of fourteen datasets were collected. Nine subjects were assigned to the music therapy condition. Five subjects served as a control group.

Results of the data suggest that all subjects' anger management skills improved, regardless whether they were in the control or treatment group. This result fits the literature, which states that general anger management treatment improves anger management skills in forensic psychiatric patients (e.g., Andrews & Bonta, 2010). Subjects in the music therapy treatment condition showed somewhat higher improvement of their

positive coping skills than did the control. For the N=1 analysis we found that some subjects improved their behavior significantly, while others improved, but not on a significant level.

The exact numbers of treatment hours of both conditions were compared too. On average, both groups had the same amount of therapeutic treatments (about four sessions a week). The number of treatment hours however differed. Music therapy subjects received almost 1.5 hours less therapy than the control subjects who, 'co-incidentally', all received an aggression management program (of an average of 3 full hours). The subjects in music therapy treatment improved their coping and anger management skills at the same level as the controls. In chapter 5 these results are interpreted very carefully since the size of the study is small and the statistical power is weak (for the N=14, and a low effect size $d=0.3$ the statistical power =0.12; with $d=0.8$ the statistical power =0.53).

7.3 Contributions to music therapy research

The present dissertation aims to take a first step towards building a coherent and consistent theory underlying music therapy interventions in the treatment of the primary goals of forensic psychiatric patients. Building on the theoretical ideas, against the background of the tentative empirical results of the studies presented in this dissertation, chapter 6 formulated an alternative foundation for music therapy in the treatment of primary goals of forensic psychiatric patients. In order to develop new skills, reduce risk-behavior, and stimulate patients to change their behavior through therapy, the RNR-model of Bonta and Andrews (2007) offers the most thoroughly researched, evidence-based foundation. Hence, the RNR-model was applied as a theoretical point of departure to provide a better foundation for the treatment of forensic psychiatric patients. The RNR-model offers important clues for developing optimal music therapy treatment programs in forensic psychiatry.

The theoretical model for music therapy combines the 'what works' principles for forensic patients with principles derived from existing (evidence-based) research on offenders, psychiatric treatment, and music (therapy). The studies in these strands of research show, first of all, that a proper risk-assessment of patients is necessary. Therefore, the results of the risk assessment should feed into the formulation of therapeutic goals for changes

in a patient's behavior, cognition, and responsivity. These changes must be taught, practiced, and applied in therapy as well as during everyday life (first at the living unit; later outside the clinic).

The better the therapies fit with the responsivity of patients the more effective the changes in behavior will be (Andrews & Bonta, 1990). A crucial assumption is that music therapy strongly taps into the responsivity of forensic psychiatric patients. For many forensic patients, music is an appealing form of art and entertainment. Music provides patients with the opportunity to regulate emotions (Saarkallio & Errkilä, 2007) through expressing themselves and listening to music. Music has a specific appeal to offenders because it relates to moments of freedom (Tuastad & O'Grady, 2013). For offenders, music creates a distance between their emotions, provoked during daily, harsh life and the life they desire. In addition, and importantly, music is assumed to affirm a safe distance for a forensic psychiatric patient between his behavioral responses in therapy and the real world. All these responsivity factors do indicate that—although music seems to be appealing to many forensic psychiatric patients—a proper music therapeutic assessment is crucial to assess the specific responsivity of each specific patient in the treatment.

7.3.1 Implications for a methodical approach to treatment goals

The aim of this dissertation was to move beyond the application of music as an expression of desires and emotions (meeting the secondary treatment goals for forensic psychiatric patients), but to apply music in primary goals to trigger behavioral changes. Chapters 2 through 5 provided, from different theoretical approaches, literature, and empirical explorative studies, a first foundation for the use of music as a trigger for behavioral reactions. However, these studies also show that we still lack a more profound and coherent explanation underlying the role of music in music therapy treatment. Hence, chapters 2 through 5 were only partially able to answer the main research question: “Can we create a theoretical framework—through literature review as well as empirical research—that explains possible effectiveness of music therapy within forensic psychiatry by validating core assumptions of the risk-, need and responsivity principles as well as musical ones for forensic psychiatric patients with personality disorders as their primary psychiatric diagnosis?”

To provide a more profound and coherent explanation for the role of music in music therapy treatment, we studied the neurological foundations of music. According to research in the natural sciences, music provokes neurological reactions. As found by Paltsev and Elnor (1967), and Rossignol and Melvill Jones (1976) music has a unique characteristic. When provided with an auditory cue, muscles prepare themselves for upcoming action. “Sound can arouse and raise the excitability of spinal motor neurons mediated by auditory-motor circuitry” (Thaut et al., 1999, pg. 101). Music is a complex biological language addressing motor, cognitive and language function – it actually shares processing centers in the brain with those functions. Therefore, music could be a core cognitive language for educating the brain. This is slowly, but increasingly documented by the research in music and cognitive rehabilitation (Thaut et al., 2009). If applied methodically and correctly, music could stimulate the reward system of a person; music could mimic emotions, and therefore create a distance in those emotions; music can change the cognition of a person, stimulate his relaxation, and enforce attunement. Hence, the neurological foundations of music could explain why forensic psychiatric patients are often so responsive to music therapy treatment. The neurological reactions of forensic psychiatric patients to methodically applied music could provide clues about how music could be effective in the treatment of forensic psychiatric patients.

However, the neurological responses of patients are only one side of the treatment. The methodical application of music (that is, the therapy-part) needs a proper foundation too. Research on the influence of music and music therapy interventions show that if any effects of music occur, the treatment is based on a neurological, or a cognitive-behavioral approach within music therapy. By virtue of its potential to structure (musical) reinforcement, repetitive training of new skills through music, and correcting (musical) experiences, music therapy can provide the behavioral basis necessary to meet the standards of evidence-based treatment. By the unique characteristics of music to directly activate cognitive functions in the brain, work as motivator and stimulating awareness music therapy can provide a cognitive approach too. All the chapters of the present dissertation suggested (by means of literature review or on the basis of (tentative) empirical data) that music can be applied in a methodical, goal-oriented fashion.

ion, in order to stimulate the development of patients' need principles. Musical situations could be manipulated in such a way, that patients can train new behaviors and can be confronted with flaws in their behavior. There are some indications that music—if applied from a neurological perspective and applied therapeutically within a methodical, cognitive-behavioral framework—enables patients to work on primary treatment goals.

7.3.2 Implications for music therapy in forensic settings

Let us summarize the most important findings that result in the theoretical explanations for possible effects of music therapy provided by chapter 6. In the first place, music therapy taps into the responsivity of many forensic psychiatric patients. Their musical interest appeals to their longing for freedom, which is a strong motivating factor to partake (Tuastad & O'Grady, 2013).

In the second place, the neurological influence of music can be applied systematically in forensic psychiatry. Music stimulates the reward system of people (Blood & Zatorre, 2001; Blum et al., 2010; Brown et al., 2004; Hodges, 2010; Menon & Levitin, 2005; Stefano et al., 2004) and therefore can be applied to reinforce adequate behavior. Music can be utilized to evoke emotions but due to the mimicking of these emotions music also creates a distance in experiencing emotions (Gabrielsson, 2010; Gabrielson & Lindström, 2010; Juslin et al., 2010; Koelsch et al., 2006; Konečni, 2010; Konečni et al., 2007; Peretz, 2010). The establishment of such a distance is crucial in forensic psychiatry because it enables the treatment of 'dangerous' behaviors of forensic psychiatric patients, such as aggression, while minimizing re-offense chances. Music can intensify relaxation (Blood & Zatorre, 2001; Stefano et al., 2004) and offer the possibility to express emotions in a contained manner (Jackson, 2010). And last but not least, music offers the possibility from a neurological perspective to stimulate attunement of brain-activities between people (Sänger et al., 2012; Winkelman, 2003).

In the third place, evidence from the forensic literature suggests that a cognitive-behavioral approach is considered most effective for forensic psychiatric patients (Landenberg & Lipsey, 2005; Walker & Bright, 2006). Music therapy applied within a cognitive behavioral approach makes repetitive training easier to perform. The musical parameters such as melody, rhythm, or harmony, can change and yet the same behaviors can be rehearsed over

and over again. Music can contain conflicting emotions and cognitions without damaging a person, as many songs prove where lyrics and music are in conflict and yet create beautiful music. If systematically structured by a properly trained music therapist, music can contain afflicting emotions (like anger or rage) and minimize the chances of those emotions being acted-out outside the music.

In the fourth place, music therapy treatment can focus on the primary goals of forensic psychiatric treatment: minimizing risk factors and relapse chances through behavioral change. In close collaboration with staff members of a multi-modal treatment team, an indication for music therapy can be formulated geared towards a patient's specific need factors, such as anger management or aggression regulation, reducing avoidance coping, dysfunctional behavior, or the development of positive coping (Crimmins, 2010; Dijkstra & Hakvoort, 2006, 2010; Fulford, 2002; Gallagher & Steele, 2002; Gant, 2000; Hakvoort, 2002, 2007a, 2007b; Hakvoort et al., in review; Hoskyns, 1995; Reed, 2002; Rickson & Watkins, 2003; Rio & Tenney, 2002; Smeijsters & Cleven, 2006; Watson, 2002; Wyatt, 2002; Zeuch, 2001, 2003; Zeuch & Hillecke, 2004). From a cognitive behavioral approach, music may be helpful to train cognitive and behavioral skills of forensic psychiatric patients such as listening to another, staying attuned to another, or asking for help (Gold et al., 2010; Mössler et al. 2011; Silverman 2003, 2010). The empirical data of this study, although tentative and limited, could be interpreted to support the (workable) assumptions provided by cognitive-behavioral music therapy theory.

To wrap up, music therapy in forensic psychiatry should preferably develop through the systematic and methodical application of the neurologic influences of music through musical interventions that are: (a) grounded in a cognitive-behavioral approach, (b) administered by a licensed professional, (c) based on best-practice in forensic psychiatry, music therapy, and neuroscience, (d) process afflicting behaviors/emotions and/or accomplish individualized goals, (e) geared towards a change, or development, in primary need-principles, such as behavioral, cognitive and social changes, (f) within a therapeutic alliance with forensic psychiatric patients who demonstrate risk behavior during music therapy assessment and responsivity toward music (based on the definitions of ArtEZ, 2009).

7.4 Limitations of the studies

As Pawson and Tilley (1997) predicted, it turned out to be difficult to gather research-data in forensic psychiatry and even more so for music therapy. It would take time, money and remodeling to collect the proper data for research in forensic psychiatry in the Netherlands (Timmerman & Emmelkamp, 2005), especially with a multi-center approach (Bernstein, Nijman, Karos, Keulende Vos, de Vogel, & Lucker, 2012; Hakvoort et al., 2011). The bureaucracy of the judicial system is time consuming, just as it is to stimulate multi-modal disciplines to participate. Although the present study started by comparing the results of music therapy with those of multi-modal disciplines, such as sociotherapy or verbal psychotherapy, this design was abandoned in the effect study of chapter 5. It took the music therapists and researcher a lot of time to gather data from multi-modal disciplines. Due to high work-pressure in forensic psychiatry (Van Nieuwenhuizen et al. 2011) score-forms were often only partially filled out by other disciplines. Staff-members hardly found the time to fill-out observation forms for a research program, so they just did not fill them out, or did so very hastily. These circumstances led to incomplete data sets, or to low (even negative) inter-coder reliability. This regrettably resulted in the use of the multi-modal data in only one of the empirical studies.

A multi-center randomized controlled trial, central to chapter 5, is difficult in any setting, but even more so in forensic psychiatry. In forensic psychiatry, staff-members often deal with unmotivated patients and patients suffering from severe mental illness. It was difficult to get a proper number of forensic psychiatric patients to enroll in the studies. To meet criteria of internal validity subjects have to meet very specific characteristics. Subjects who could participate in the study were not allowed to have had any previous music therapy treatment in forensic psychiatry. They had to be within a certain age-range, be diagnosed with personality disorder(s) only, and not hospitalized for longer than 1.5 year.³ All these aspects have to be taken into account to increase the internal validity of the research, but they narrow down the number of patients that could be included in the study. One problem encountered was that patients who met the inclusion criteria and who were willing to participate in the study, were not always the ones with the highest aggression problems. Some of the patients with major aggression problems needed immedi-

³ Which is short in forensic psychiatry since the average treatment time is more than 9 years according to Van Gemmert and van Schijndel (2011).

ate treatment and could not wait for the complete procedure of a pre-assessment, randomization and then the possibility of not receiving the appropriate treatment. From an ethic treatment perspective they had to be enrolled (or requested to be enrolled) in the music therapy anger management program immediately. To make sure that at least some data could be selected from forensic psychiatric patients, all patients were included that met the inclusion criteria. Unfortunately this did influence the scores on negative coping skills and overall aggressive and dysfunctional behavior, which tended to be low (floor effect).

Another limitation of the study is that it was not possible to apply a standardized music therapy-scoring list. The availability of validated music therapy tests is very limited (e.g., Poismans, 2013) and not one of the available tests is validated for (forensic) psychiatry. There are just very few diagnostic tools or assessment tests validated for forensic psychiatry in general. Tests especially designed for forensic psychiatry or offender treatment, such as HCR-20 (Webster et al., 1995), its Dutch equivalent HKT-30 (Werkgroep Risicotaxatie Forensische Psychiatrie, 2003), PCL-R (Hare, 2003), or FP-40 (Brand, 2006) are not validated for music therapy. Only the ASP-NV (Vess, 2001) offers a validation in offender treatment for recreational and occupational therapies, including music therapy, for specific profiles (Neville & Vess, 2001). Due to the limitation of available assessment tools for music therapy, it is not certain whether the music therapists applied the assessment tools appropriately. The ASP-NV (Vess, 2001), SDAS (Wisted et al., 1996) and FP40 coping lists for music therapy (Brand, 2006; adjusted by Hakvoort) might not have completely fitted the specific behaviors under study (Hakvoort, 2007b).

It is always difficult to build a new theoretical foundation for a treatment modality. Available and accessible empirical data would have been helpful. The results of the empirical data collected and used for the present study suggest that we have indications that music therapy can influence the primary need-principles of forensic psychiatric patients. The results also suggest that the theory of analogy may not be the best explanation for the influence of music on behavioral changes in forensic psychiatric patients. However, due to the limited number of enrolling patients, and an even lower number of patients who completed the program, we only could support the theoretical foundations of the theory with the explorative data at hand, and not with any 'hard evidence'.

The theory offers plausible explanations, but many more studies in clinical settings are necessary to further validate or falsify the theory developed in this dissertation.

7.5 Agenda for further research

In the face of the limitations, this dissertation offers reasons to engage in further research into the possible benefits of music therapy. Perhaps it can assist to set a possible agenda for future research in music therapy in forensic psychiatry as well. First of all, further research should be carried out into the effectiveness of specific music therapy treatment programs. It would be interesting and relevant to investigate whether the music therapy anger management program influences some of the need principles when the number of enrolled patients increases. There is a probability that the program was influenced mainly through a highly motivated team of music therapists and staff (Morgan, Flora, Kroner, Mills, Varghese, & Steffan, 2008; Polaschek, 2011). It would be interesting to explore what happens if other music therapists administered the music therapy treatment program. It would also be relevant to find out whether the music therapy anger management program is specifically (or only) applicable for Dutch forensic psychiatry or whether other nationalities, or types of offenders, could benefit from the program as well. It would be stimulating for music therapy in general to explore the effect of the music therapy anger management program for people with anger or aggression problems outside the judicial system. Any effect study into this program would be helpful to add an evidence-based foundation for music therapy: especially when it would falsify (certain aspects of) the effectiveness of the program.

Literature such as Compton Dickinson et al., 's (2012) study entitled 'Forensic music therapy; A treatment for men and women in secure hospital settings' offers a positive vision of music therapy using case studies. Likewise, the present dissertation described cases vignettes that illustrate how the music therapy works, and provide some deeper insight into the mechanisms and assumptions that would make music therapy functional (or perhaps even effective) in forensic psychiatry. The preliminary results of this explorative study of music therapy anger management on forensic psychiatric patients suggests that music therapy might influence behavioral change.

On the other hand, music therapy is certainly not a miracle cure. Failures, or adverse effects, are hardly ever published (Edwards, 2011) and yet, unsuccessful therapies are quite common in forensic psychiatry. To refer to the classic method of scientific research: we can learn more from falsifying our theories (Popper, 1965), by analyzing failures, than by presenting all those positive case vignettes. An example of the falsification process was provided by the study on the theory of analogy, in chapter 3. Many case studies and other qualitative studies reported a validation of the theory of analogy. Yet, in the explorative, quantitative study of this dissertation in chapter 3, the theory of analogy seemed to be (partly) falsified. Further systematic, quantitative research into the core assumptions and mechanisms of the theory of analogy, with different populations or different (emotional, behavioral, psychological or social) behavior should further delineate the contours of applicability of the general theory of analogy in music therapy. At the same time, more systematic quantitative research is necessary to further validate, or falsify, the theoretical assumptions of the primary-goal-oriented music therapy theory, as presented in this dissertation.

There are a number of different standardized music therapy treatment programs that could be studied for their effectiveness in forensic psychiatry—especially if the music therapy program focuses on one (or more) effects of music on the neurological pathways in the brain. Since music seems to influence the reward system of people (Blood & Zatorre, 2001; Blum et al., 2010; Brown et al., 2004; Esch & Stefano, 2004; Hodges, 2010; Menon & Levitin, 2005; Stefano et al., 2004), music therapy programs could be relevant for (forensic) psychiatric patients with malfunctioning reward systems, like Attention Deficit Hyper Activity disorder (ADHD), anti-social personality disorder (Ogilvie et al., 2011). Some preliminary studies have started for people suffering from addiction problems (Hakvoort & Dijkstra, 2012; Van Ree, 2013), and these would be highly interesting topics for further study. From the premises of neurological music research, studies into the effectiveness of specific music therapy programs is recommended for (forensic) psychiatric patients with malfunctioning stress-levels or relation building skills, since music seems to influence the brain regions involved in this process and the goals that belong to the primary need factors of forensic psychiatric patients.

The explorative study on the influence of music therapy on coping skills and anger management in chapter 5 found that subjects who received music therapy needed fewer hours of treatment to gain similar results as the control group. The control subjects all received (by accident) aggression management training (which constitutes out of 1,5 hour verbal psychotherapy and 1,5 hour of psychomotor therapy). It would be interesting to compare both treatments (music therapy anger management and aggression management training) for its mechanisms, and workable assumptions as well as its functional effectiveness. It was a remarkable and unpredicted result, which almost demands further studies of the effectiveness of music therapy in combination with, and in comparison to, other treatment modalities.

It would have seemed a logical step in a dissertation about forensic psychiatry to investigate the relapse or re-offense behaviors of the participating subjects. Often, this is presented as the most important outcome of forensic psychiatric treatment. A proper indicator for the effectiveness (or failure) of treatment and the predictability of recidivism in forensic psychiatry is the incident rate at a unit. Incidents at the unit are a risk indicator (De Ruiter & Hildebrand, 2007; Hildebrand et al, 2007). Therefore, we tried to collect the incident-data for all thirteen subjects participating in the explorative study. The music therapists collected the data about incidents for each subject in official incident logs like MITS (Report of incidents Dutch forensic psychiatry) or MIP (Reports of incidents with patients), as well as in patient's judicial notes. It turned out that these records did not provide reliable and conclusive data. Many contradictions occurred and some data were clearly missing. For example, a patient who had not one single incident registered in the MITS registration system, had 2 in the MIP system, as well as comments of often reoccurring positive narcotics-tests (about 4) in the judicial notes, with twenty specific mentioning's in the daily annotations. Another patient, who had many incidents at the unit (at least according to the judicial notes), was paroled and none of the MITS registration data was available anymore. To go through the entire daily annotations of the living units was an undoable research strategy, due to time restrictions of the participating music therapists and the researcher. It turned out that the data at hand was so unreliable that it was not possible to perform any kind of reliable incident-analyses. To compare the number of incidents of forensic psychiatric patients

⁴ In a number of publications (e.g., Smeijster, 2006; Meekums & Daniel, 2011) a seven years investigation is cited, which suggested that patients receiving art-based therapies showed less recidivism (Criminal Justice Funding Report, 1999). However an elaborate search could not retrieve this report.

who receive music therapy and who did not would be an interesting, though demanding topic for future research.⁴

As described there is no music therapy assessment score list for forensic psychiatry or for coping skills. A preliminary study was performed to develop a specific music therapy diagnostic or assessment tool of coping skills for (forensic) psychiatric patients (Hakvoort, 2007b). However, without any specific formulation of the theoretical foundations and workable assumptions of music therapy, such an assessment tool would have only a limited value or impact. The actual development of such a music therapy coping list would comprise a dissertation by itself, and therefore could also be a challenging and interesting topic for future research.

A part of the explanatory power of this dissertation originates from neuroscience. Yet, neuroscience is a newly developing field of expertise in which many new studies offer new insights almost every week. It is necessary to keep a regular update of the latest neuroscientific investigations to see if the theoretical foundations of the present study, and its implications for music therapy, are still affirmed or disputed. This might further strengthen or weaken the workable assumptions and mechanisms of music therapy in forensic psychiatry. So there are many ties for further research into music therapy in forensic psychiatry.

7.6 Implications for music therapy

During its applications, it appeared that the music therapy anger management program is not an easy program to handle for music therapists. It is demanding from a musical, therapeutic, relational, and emotional perspective. A music therapist needs to be musically well-educated and able to handle many different musical instruments, musical styles and music therapeutic improvisation techniques. A musical containment or holding has to be created in many situations, to allow emotions as anger or aggressive behavior to occur and yet confine them within the controlled, musical environment. During the third and fourth stage in the program a more confronting therapeutic attitude has to be applied, to trigger certain emotional and behavioral reactions. This attitude demands from the therapist specific certainty, directiveness, and boundary-setting skills that are not always present in all music therapists. Besides, the program can be very confronting at an emotional level for the music

therapist as well. Without a proper supervision and regular debriefings engagement in the program might evoke uncontrollable fear or even traumatization in a music therapist. Containing and guiding the severe emotions (such as anger) and unpredictable behaviors (such as aggression) of people with extreme deficits in this domain is very demanding, even within the music, and that might not fit each music therapist's personal capacities. It is important to acknowledge this as early as possible. Not all clinics or institutions have a music therapist, but due to the mentioned requirements, just hiring an out-side music therapist every now and then from outside to offer this specific music therapy program could be dangerous for both patient and therapist.

Music therapy is applied in quite a number of forensic psychiatric institutions or incarceration situations (Coddling, 2002), but only a few forensic psychiatric patients benefit from its possibilities. The train of thought of this dissertation and the explorative studies suggest that music therapy might be an additional treatment modality to develop specific need-factors of forensic psychiatric patients, such as anger or aggression management. It could expand patient's positive coping skills and diminish avoidance coping skills. It would be advisable to embed more music therapists within the multi-modal treatment in forensic psychiatry. A good embedment in multi-modal teams is essential, to which we come back later in this section.

The transfer of newly mastered skills from the music therapy situation should be thoroughly and actively transferred to daily life situations. A multi-modal staff should collaborate to offer a patient chances to apply his newly acquired skills during different situations (occupational therapy, psychomotor therapy, dialectic behavioral therapy, at the unit, etcetera). The music therapist is responsible for the homework assignments and a proper collaboration with colleagues. Especially when working on risk-behavior such a collaboration of different modalities is crucial. However, current practice shows that there is just so little time left due to severe budget cut, that multi-disciplinary collaboration has diminished to a minimum. This causes that one treatment modality, like music therapy, can reinforce change in a patient that is counteracted by inappropriate reactions of another discipline. This makes multi-modal treatment sometimes less effective, and could moreover even endanger the safety of individual therapists (Martin & Daffern, 2006).

The transfer from music therapy to everyday life is essential. But, this transfer can only be effective if multi-modal treatment is applied in close collaboration to reinforce the treatment of each modality. After all, treatment in forensic psychiatry is teamwork. Although the data from other modalities for the explorative study was incomplete, and therefore could not be used directly, patterns in the data still suggest that when patients started applying more positive coping skills (like asking for help, or positive assertiveness), the sociotherapists tended to score these patients as more dysfunctional (they speak up instead of withdrawing as they did previously). At other times, a patient is punished for withdrawing in his room and turning on his music loud, practicing his coping skills when he is extremely angry, or trying to prevent himself from becoming enraged. Without a proper collaboration of multi-modal disciplines, these behaviors could be interpreted wrongly. Such mismatches can be prevented, however, and a proper first step in anger management should be implemented not only by a single therapist, but also by a complete treatment-team. The sometimes-isolated position of multi-disciplinary therapists is a sincere source of concern.

Whether a patient benefits from this music therapy anger management approach, might differ due to personal characteristics too. Some patients, for example with psychopath tendencies, might enjoy the musical 'game' of provoking anger and fear. This may be a reason for an immediate termination of the program. Other patients, especially those with psychotic tendencies or mental limitations might not stand the pressure installed upon them through the program. A number of adjustments are necessary to make the program fit their needs. First of all, the 20 sessions of one hour are too demanding. More often administered and shorter sessions, with less confronting assignments, would probably better fit their needs and possibilities (that is, their responsibility). The training of new skills should not only be trained in the music therapy room, but also actually practiced in their own room, or at the living unit. Other contra-indications for a primary-goal-oriented music therapy should be a lack of responsivity (either to music or to the cognitive behavioral approach), the absence of symptoms of malfunctioning during music therapy, or a failing transfer from newly acquired skills to daily life.

Forensic psychiatry is under pressure at the moment (at least in the Netherlands). The budget allocated to forensic psychiatry and its effectiveness (in terms of reducing recidivism) is questioned by society. Music therapy as part of the treatment of forensic psychiatric patients or offenders is a very delicate issue in society. It is often perceived as a luxury condition, not available to the victims of the forensic psychiatric patient's offenses (de Volkskrant, 2013-03-11). It is necessary to explain the reasons why music therapy is embedded within forensic psychiatric treatment. Important to note is that the 'well-being' of a forensic psychiatric patient alone cannot offer a legitimization to music therapy treatment, for then a patient should be insured or should pay for it himself, just like any ordinary citizen. Instead, music therapy treatment should be applied primary-goal-oriented to change extreme dysfunctional behavior, and consequently reduce the probability of recidivism.

The music therapy program, as well as the train of thoughts about the theoretical foundation of music therapy, could have a far broader relevance than for forensic psychiatry alone. Many (mental health care) patients enter treatment with functional problems. Primary-goal-oriented music therapy could be applied as soon as a specific goal is focusing on one of the five major impact areas of music on the brain. It is challenging, but also rewarding, to suggest the development of a model "for explaining change in externalising behaviour problems through cognitive-behavioural music therapy" (Chen et al., in review, pg. 3)

7.7 Final remark

The primary goal-oriented music therapy could have a promising future, and could potentially be applied to different populations within mental health care, as long as its basic assumptions are taken into account. Music therapy should predominantly tap into the responsivity of a patient to optimize his ability to learn and change (Hubbard & Pealer, 2009) and focus on primary goals of change in behavior. The music should contain the emotions and support the training necessary to reach functional behavior. And, last but not least, brain-based musical interventions should be administered in order to be capable of changing those behaviors (Thaut, 2005).

My analyst told me that I was right out of my head
He said I'd need treatment but I'm not that easily led
He said I was the type that was most inclined
When out of his sight to be out of my mind
(...) So why should I feel sorry if they just couldn't understand
The litany and the logic that went on in my head?
I had a brain, it was insane⁵.

⁵ "Twisted", music
and lyrics by
Wardell Gray and
Annie Ross, 1952.

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English summary

There is a widespread assumption that music therapy is mainly suited to improve the well-being of people. The field of forensic psychiatry is no exception. Recent music therapy literature suggests the core treatment goals of music therapy to be mental health issues of offenders or forensic psychiatric patients. These mental-health issues are defined, among others, as building self-esteem, empathy, and an improved concept of self.

The present dissertation outlines an alternative point of departure. The main argument being that music therapy—approached from a scientific, neurologic, and cognitive behavioral perspective, could offer a wider treatment perspective for forensic psychiatric patients or other offenders than mainly focusing on accommodating mental growth for this population.

In order to facilitate this step in the development of music therapy, an alternative theoretical foundation is developed for the treatment of forensic psychiatric patients with respect to the primary goals in forensic psychiatric treatment. According to the evidence-based practice in this field these goals comprise among others: the elaboration of coping skills, anger management, and aggression regulation. The present dissertation proposes that music therapy can have the potential to advance such behavioral changes in forensic psychiatric patients—changes that ultimately may help them reduce the probability of relapse.

The main goal of the present dissertation is to theoretically and empirically explore which underlying mechanisms can drive music therapy treatment to results in forensic psychiatry. At the same time the connection with evidence-based literature in this field and in the field of music therapy is considered. The core of the theoretical and empirical evidence built in forensic psychiatry points at the risk, need and responsivity (RNR) principles of forensic psychiatric patients. Using this evidence, as well as results from natural and behavioral science towards the applicability of music, we focus on developing a model of music therapy treatment that not only could accommodate mental health issues, but also might contribute to the need principles of forensic psychiatric patients.

From these considerations the main research question of this dissertation is formulated, as: “*Can we create a theoretical framework, through literature review as well as empirical research, that explains possible effectiveness of music therapy within forensic psychiatry by validating core assumptions of the risk-, need and responsivity principles as well as musical ones for forensic psychiatric patients with personality disorders as their primary psychiatric diagnosis?*” Different studies (literature studies, theoretical work, and empirical studies) are conducted to address four sub-questions that are derived from the main research question.

Chapter 2. Assessment of risk behavior

The second chapter of this dissertation explores the first sub-question. This sub-question is: Is it possible, from a combined theoretical and measurement perspective, to observe offence related behavior in musical behavior during assessment?

To answer this question, a literature study is conducted, combined with the presentation of a number of case vignettes. The core theoretical assumption of this chapter is that patients demonstrate outer musical behavior in musical situations (a so-called theory of analogy). There is an assumed similarity between reactions of a patient while making (improvised) music and his reactions while functioning in daily life.

Chapter 2 discusses how an assessment of offence related behavior is possible within music therapy if one follows the assumption of analogy. To keep the focus primarily on forensic psychiatric treatment goals, a music therapeutic assessment focuses on three different ways forensic psychiatric patients function: (1) their offence related behavior, or so-called “risk principles”, (2) their coping- social/interaction-, conduct skills, or so-called “need principles”, (3) their “responsivity” to the music therapy intervention. The chapter describes some of the musical mechanisms that could reflect these ways of functioning. Some behavioral reactions of patients, which appear within the music, could be interpreted as observable risk factors. However because the risk behavior is contained in the music, it generates limited risks for the music therapist. To assess whether offense or risk related behaviors could potentially change as a result of musical assignments and interventions, a further assessment is made of the learning skills of the patient (which provides insight in a patient’s “responsivity principles” in regard to music therapy).

Results of this chapter suggest that from a theoretical perspective it could be possible to observe offence related behavior in musical behavior during assessment. However, further exploratory study is necessary to research measurement of the risk- and need behaviors.

Chapter 3. Empirical validation of the theory of analogy

From the results of the study in chapter 2, the second sub-question arises whether, and how, a similarity develops between reactions of a patient while making (improvised) music and his reactions while functioning in daily life. The analogy between musical behavior/ reactions and behavior/ reactions in other situations is further examined. From the theory of analogy follows the hypothesis that the observed and interpreted musical behaviors of forensic psychiatric patients should show similarities with their outer-musical behavior.

To explore this hypothesis musical behavior of forensic psychiatric patients is compared with their behavior in daily life at the clinic. Chapter 3 explores, from an empirical perspective, whether we can find convincing empirical evidence for the

theory of analogy. The behavioral reactions under stress-provoking circumstances of subjects at the living unit (as measured by the sociotherapists) were compared with the behavioral reactions of the same subjects under similar stress-provoking circumstances during music therapy assessment (as observed by the music therapist). Measures for behavioral responses included: coping skills, social dysfunction, aggression, assaultive behavior, interpersonal skills and self-management of psychiatric symptoms. For each subject the scores of behavioral reactions during music therapy and in the living unit were compared.

The results of that comparison are not as conclusive as the theory of analogy suggests. Statistically significant similarities were found with regard to certain mechanisms: general dysfunctional behavior and verbal behavior. No similarities were found for assaultive behavior, interaction skills, or coping skills. The results have to be met with caution, since the N of the study is only 20. They suggest, however, that forensic psychiatric patients may behave differently in the living unit than during music therapy. The implication is that the theory of analogy must be applied very carefully and transfer of behavior to daily life should be specifically trained.

Chapter 4. Development of a music therapy anger management program

If the theory of analogy is not convincing, it is interesting to investigate what contributions music therapy could make to the treatment of forensic psychiatric patients. Therefore the third sub-question asks how to develop a music therapy intervention program that is based on the core assumptions of the RNR model while utilizing and maximizing the characteristics of music therapy. The intervention program is based on assumptions of how music therapy effectively intervenes in the factors specified by the RNR model for forensic psychiatric patients.

To address the third sub-question, chapter 4 turns its attention to evidence-based practice in forensic psychiatry. One of the important need factors of forensic psychiatric patients is anger management. Behavioral change on the need principles of anger regulation is a primary treatment goal. Chapter 4 describes the development and outline of a specific music therapy program that could facilitate the development of anger management skills of forensic psychiatric patients. By means of an elaborate literature study, expert consultation meetings with a number of forensic music therapists, and the exploration of several case vignettes, a standardized music therapy anger management program is developed that aims to improve the anger management skills of forensic psychiatric patients and fits their optimal learning conditions.

The program is designed to treat forensic psychiatric patients with personality disorder(s) and a malfunctioning anger regulation. The program builds upon general anger management theory and research, both developed within and outside of forensic psychiatry. Chapter 4 provides examples of conditions and assignments that aim to create controlled anger management situations. In these situations, the

music is assumed to enable a patient to experience emotions of anger in a safe and controlled setting. These music therapeutic interventions stimulate the patient's awareness of his anger disorder, which in turn strives to improve his awareness of risk factors. In addition the patient practices skills in the music therapy anger management program aimed at expanding his need principles (such as positive coping skills). The music itself creates a safe distance (both emotional and physical) between the therapist and the patient.

Chapter 5. Exploration of forensic psychiatric music therapy treatment

The fourth sub-question of the present dissertation inquires whether it is possible to detect change patterns in the behavior of forensic psychiatric patients, as specified in the music therapy goals and the RNR model. To examine whether the music therapy anger management program could reach its goals of behavioral changes and awareness, the program was investigated in an empirical explorative study. An experimental pre-post-test research design was applied which involved five music therapists from four different forensic psychiatric clinics in the Netherlands. Forensic psychiatric patients were invited to become the subjects of the study. They were assessed at the beginning and at the end of a six month research period. All subjects received 'treatment as usual' in the clinic. In addition subjects were randomly assigned to music therapy treatment or a waiting-list condition. Subjects assigned to music therapy received 20 individual one-hour sessions of the standardized music therapy anger management program. The focus of the music therapy interventions was placed on the expansion of coping skills and anger management. Unintended, the subjects assigned to the control group received an additional regular aggression management program. The pre- and post-test music therapy assessment of each subject was video-recorded and scored by the music therapist, as well as by a second observer (who was unaware of the experimental condition of each subject). The scores of the pre-test were statistically compared with the scores of the post-test.

Due to constraints on data collection, only thirteen of the 21 initially invited subjects completed the pre- and post-test. One subject, after serving in the control condition for 6 months, completed a successive 20 sessions of music therapy anger management program. So, a total of fourteen datasets were collected. Nine subjects were assigned to the music therapy condition. Five subjects served as a control group.

Results show for all subjects that their aggression regulation skills improved, regardless whether they were in the control or treatment group. The subjects in music therapy treatment and control changed their coping and anger management skills accordingly. There was a slightly larger improvement of positive coping skills of subjects in the music therapy treatment condition. Of course, these are all very tentative results since the size of the study is very small and the statistical power

is weak (for $N=14$, and a low effect size $d=0.3$ the statistical power $=0.12$; with $d=0.8$ the statistical power $=0.53$). Results are therefore met with caution.

Chapter 6. Theoretical contributions to music therapy research

With just very tentative empirical evidence and a limited amount of literature on music therapy effectiveness in forensic psychiatry Chapter 6 tries to offer an explanatory theory of music therapy as a treatment modality for primary goals in forensic psychiatry. From four different angles assumptions are combined to explain why and how music therapy could contribute to primary treatment goals in forensic psychiatry.

In the first place, music therapy seems to tap into the responsivity of many forensic psychiatric patients. Their musical interest matches their cultural interests and background and appeals to their longing for freedom, which is a strongly motivating factor to partake in music therapy.

In the second place, the possible neurologic influence of music can be applied systematically in forensic psychiatry. Research suggests that music stimulates the reward system of people and therefore could be applied to reinforce adequate behavior. Music could be utilized to evoke emotions, but due to the mimicking effect of music provoked emotions, music can create a distance in experiencing these emotions. The establishment of such a distance could be crucial in forensic psychiatry, because it could enable the treatment of 'dangerous' behaviors of forensic psychiatric patients, like anger outbursts or aggression, while minimizing re-offense chances towards the music therapist. And last but not least, from a neurological perspective music seems able to stimulate cognitive functioning like planning, organizing, problem solving, as well as attunement between people, which could improve cooperation and social skills.

In the third place, evidence from forensic psychiatric literature suggests that a cognitive behavioral approach is most effective for forensic psychiatric patients. Music therapy applied within a cognitive behavioral approach can make repetitive training of newly mastered behaviors easier to perform; music can be adapted to prevent boredom. If systematically structured by a properly trained music therapist, music can contain afflicting emotions (like anger or rage) of a patient, let him practice how to cope with these emotions differently and minimize the chances of those emotions being acted-out outside of the music.

In the fourth place, although the data is very limited, music therapy treatment theoretically seems to assist patients to focus on primary goals of forensic psychiatric treatment: coping skills, anger management, aggression regulation and might therefore help to minimize relapse chances through behavioral change. In close collaboration with staff members of a multi-modal treatment team, an indication for music therapy can be formulated geared towards a patient's specific need factors. Although the explorative data is very tentative the literature study seems to

offer (workable) assumptions for a theoretical foundations for cognitive behavioral music therapy in forensic psychiatry.

To answer the main research question of this dissertation: "*Can we create a theoretical framework, through literature review as well as empirical research, that explains possible effectiveness of music therapy within forensic psychiatry by validating core assumptions of the risk-, need and responsivity principles as well as musical ones for forensic psychiatric patients with personality disorders as their primary psychiatric diagnosis?*" we could answer:

At the moment there is no conclusive evidence for the effectiveness of music therapy in forensic psychiatry. So, music therapy in forensic psychiatry should develop further through a systematic and methodical application of the neurologic influences of music through musical interventions that are: (a) grounded in a cognitive behavioral approach, (b) administered by a licensed professional, (c) based on evidence and best-practice in forensic psychiatry, music therapy, and neuroscience, (d) process afflicting behaviors/ emotions and/ or accomplish individualized goals, (e) geared towards a change, or development, in primary need-principles, such as behavioral, cognitive and social changes, (f) within a therapeutic alliance with forensic psychiatric patients who demonstrate risk behavior during music therapy assessment and responsivity toward music.

Nederlandse samenvatting

Een veelgehoorde veronderstelling luidt dat muziektherapie vooral geschikt is voor het welzijn van patiënten. Forensische psychiatrie is daar geen uitzondering op. Recente muziektherapie literatuur definieert de kerndoelen van muziektherapeutische behandeling voor forensisch psychiatrische patiënten of daders als het bevorderen van de geestelijke gezondheid. Die geestelijke gezondheid bestaat daarbij onder andere uit het opbouwen van zelfvertrouwen, empathie en verbeteren van het zelfbeeld.

Het voorliggende proefschrift heeft een ander vertrekpunt. De belangrijkste invalshoek hier is dat muziektherapie—benaderd vanuit een wetenschappelijk, neurologisch en cognitief-gedragstherapeutisch perspectief, meer kan betekenen in de behandeling van forensisch psychiatrische patiënten of daders dan vooral het faciliteren van mentale groei. Om deze verandering in de benaderingswijze van muziektherapie te ondersteunen is een alternatieve theoretische basis geconstrueerd voor de muziektherapeutische behandeling van forensisch psychiatrische patiënten, vanuit primaire behandeldoelen binnen de forensische psychiatrie. Volgens resultaten uit onderzoek binnen de forensische psychiatrie richten die primaire doelen zich op het terugbrengen van de kans op recidive. Die doelen zijn gedefinieerd als onder andere: uitbreiding van coping vaardigheden, woede beheersing en agressie regulatie. Deze dissertatie onderzoekt of muziektherapie de mogelijkheid heeft om bij forensisch psychiatrische patiënten deze gedragingen te veranderen.

Het hoofddoel van dit proefschrift is om theoretisch en empirisch de onderliggende mechanismen te onderzoeken, die muziektherapie binnen het primaire behandelproces van de forensische psychiatrie zou kunnen plaatsen. Daarbij houden we rekening met resultaten en evidentie uit onderzoeksliteratuur zowel van de forensische psychiatrie als muziektherapie. In plaats van een verklaring vanuit welzijn voor het toepassen van muziektherapie in de forensische setting, is de focus gelegd op onderbouwing die nauw aansluit bij het forensisch psychiatrische werkveld. De kern van theoretische en empirische onderzoek binnen dit werkveld suggereert, dat behandeling van forensisch psychiatrische patiënten zich primair richt op drie principes: risico – ontbrekende vaardigheden – ontvankelijkheid (risk, need en responsivity (RNR)). Daarnaast richt dit proefschrift zich op ontwikkelingen en kennis over de invloed van muziek op de mens, zoals bekend uit de natuur- en gedragswetenschappen.

Daarom luidt de hoofdvraag van dit proefschrift: *“Kunnen we een theoretische kader vervaardigen, via literatuuronderzoek en empirische studies, die de mogelijke effecten van muziektherapie verklaart binnen de forensische psychiatrie door het bevestigen van de kernaspecten, risico, ontbrekende vaardigheden en ontvankelijkheid (RNR) van forensisch psychiatrisch patiënten met persoonlijkheidsstoornis als primaire diagnose?”*

Om deze vraag te beantwoorden zijn vier deel-vragen geformuleerd, die door middel van verschillende deelstudies (literatuur studie, theorie vorming en exploratieve empirisch onderzoeken) zijn onderzocht.

Hoofdstuk 2. Toetsen van risico-gedrag

Het tweede hoofdstuk van dit proefschrift gaat in op de eerste deel-vraag. Deze deel-vraag luidt: *In hoeverre is het mogelijk, bekeken vanuit een theoretisch en meetbaar perspectief, om delict-gerelateerd gedrag te observeren in muzikaal gedrag binnen een observatie setting.* Om deze vraag te beantwoorden is een literatuur onderzoek uitgevoerd, gecombineerd met een aantal cases. De kernhypothese van dit hoofdstuk is dat patiënten hun buitenmuzikale gedrag tonen in muzikale situaties (de analogie theorie). Er is een veronderstelde overeenkomst tussen reacties van patiënten terwijl ze (geïmproviseerde) muziek maken en hun functioneren in het dagelijks leven of zelfs tijdens of voorafgaand aan hun delict (delict gerelateerd gedrag).

Hoofdstuk 2 bespreekt in hoeverre het toetsen van delict-gerelateerd gedrag mogelijk zou kunnen zijn binnen muziektherapie indien men de analogie theorie volgt. Om zo dicht mogelijk bij de primaire doelen van forensisch psychiatrische behandeling te blijven, focust de muziektherapeutische observatie zich op drie verschillende manieren van functioneren van forensisch psychiatrische patiënten: (1) hun delict-gerelateerd gedrag (of de risico principes), (2) hun coping, sociaal, interactioneel en handelingsvaardigheden (of de ontbrekende vaardigheden), (3) hun ontvankelijkheid voor muziektherapeutische interventies. Het hoofdstuk beschrijft de muzikale mechanismes die deze manieren van functioneren kunnen oproepen. Bepaalde gedragingen van forensisch psychiatrische patiënten binnen muziek kunnen geïnterpreteerd worden als delict-gerelateerd gedrag. Omdat dit risicogedrag in de muziek plaatsvindt, vormt het slechts een beperkt risico voor de muziektherapeut. Om te toetsen of dit gedrag misschien te beïnvloeden en veranderen is door muzikale interventies en opdrachten, worden ook de leervaardigheden van de patiënt getoetst. Dit geeft een inzicht in de ontvankelijkheid of responsiviteit van de patiënt voor muziektherapie.

De resultaten van dit hoofdstuk suggereren dat het, theoretisch gezien, mogelijk kan zijn om delict-gerelateerd gedrag in het muzikale gedrag tijdens gerichte observatie waar te nemen. Omdat het hier alleen om theorie en cases gaat, is een meer verkennende studie nodig, om te onderzoeken in hoeverre we hier risico en ontbrekende vaardigheden kunnen meten.

Hoofdstuk 3. Empirische validering van de analogie theorie

Uit de resultaten van de literatuurstudie in hoofdstuk 2 is een tweede deel-vraag ontstaan: *(hoe) bestaat er een overeenkomst tussen reacties van patiënten terwijl ze (improviserend) musiceren en hun functioneren in het dagelijks leven?* In hoofdstuk 3

wordt de overeenkomst tussen muzikaal gedrag/reacties en gedrag/reacties in andere situaties onderzocht in het licht van de analogie theorie. Uit deze theorie volgt de hypothese, dat geobserveerd muzikaal gedrag van forensisch psychiatrische patiënten geïnterpreteerd kan worden in het licht van en overeenkomsten vertoont met hun buitenmuzikaal gedrag.

Hoofdstuk 3 onderzoekt vanuit een empirisch perspectief of er bewijs is voor de analogie theorie. Om de hypothese te onderzoeken, is muzikaal gedrag van forensisch psychiatrische patiënten vergeleken met hun dagelijkse gedragingen in de kliniek. Het gedrag onder stress-verhogende situaties op de afdeling (zoals gescoord door sociotherapie) van de deelnemende patiënten (deelnemers) werd vergeleken met gedrag van dezelfde deelnemers tijdens overeenkomstige stress-verhogende situaties tijdens muziektherapie (zoals gescoord door de muziektherapeut). Daarbij werd gelet op: coping vaardigheden, sociaal disfunctioneren, agressie, aanvallend gedrag, interpersoonlijke vaardigheden en zelfregulatie van psychiatrische symptomen.

Van iedere deelnemer werd de uitkomst van gedragingen tijdens muziektherapie vergeleken met die op de afdeling. De resultaten van die vergelijking zijn niet zo eensluidend als de analogie theorie suggereert. We vonden statistisch significante overeenkomsten voor sociaal disfunctioneren en verbale reacties. Voor aanvallend gedrag, interpersoonlijke en coping vaardigheden werden geen overeenkomsten gevonden. Forensisch psychiatrische patiënten kunnen zich tijdens muziektherapie anders gedragen dan op de afdeling. De resultaten moeten met grote terughoudendheid geïnterpreteerd worden, omdat er slechts 20 deelnemers aan het onderzoek deelnamen. Als we de resultaten toch willen interpreteren suggereren ze dat de analogie theorie met grote terughoudendheid toegepast moet worden.

Hoofdstuk 4. Ontwikkeling van een muziektherapeutisch module voor woedebeheersing

Als de analogie theorie niet overtuigend is, is het interessant om te onderzoeken vanuit welke visie muziektherapie dan een bijdrage zou kunnen hebben binnen de behandeling van forensisch psychiatrische patiënten. Daarom stelt de derde deel-vraag: *hoe zou je, vanuit een behandelperspectief, een muziektherapeutisch behandelmodule ontwikkelen die aansluit bij de grondbeginselen van het risico – ontbrekende vaardigheden – ontvankelijkheid (RNR) model?* De muziektherapeutische behandelmodule die in dit hoofdstuk uitgelegd wordt, is gebaseerd op de meest effectieve interventies, zoals die geformuleerd zijn vanuit het RNR model voor forensisch psychiatrische patiënten.

Om antwoord te genereren op de derde deel-vraag richt hoofdstuk 4 zich op de evidence-based praktijk binnen forensische psychiatrie. Eén van de belangrijke vaardigheden die forensische psychiatrische patiënten moeten leren en primaire doelen van hun behandeling is woede- en agressie regulatie. Hoofdstuk 4 beschrijft een specifiek muziektherapeutische module, die de ontwikkeling van woedebeheer-

ing vaardigheden faciliteert. Via een uitgebreide literatuurstudie, overleg met ervaren muziektherapeuten binnen de forensische psychiatrie en de uitwerking van meerdere cases is een gestandaardiseerde muziektherapie behandelmodule ontwikkeld, die zich richt op de verbetering van woedebeheersing vaardigheden van forensisch psychiatrische patiënten, en tegelijk aansluit bij hun ontvankelijkheid (optimale leerstijl).

Het programma is ontwikkeld voor forensisch psychiatrische patiënten met persoonlijkheidsstoornis(sen) en verstoorde woede regulatie. Het programma is gebaseerd op algemene woedehantering theorie en onderzoek, zoals die is ontwikkeld binnen en buiten de forensische psychiatrie. Hoofdstuk 4 geeft voorbeelden van interventies en opdrachten die beogen om gecontroleerde woede hanterings-situaties te creëren. Tijdens deze situaties wordt aangenomen dat de muziek de patiënt helpt zijn woede in een veilige en gecontroleerde setting te ervaren. De muziektherapeutische interventies stimuleren de bewustwording van een patiënt's woede problematiek (en zo van risicofactoren). Daarnaast kan het helpen de te leren (ontbrekende) vaardigheden (zoals coping) uit te breiden. De muziek zelf kan voor een veilige afstand zorgen (emotioneel en fysiek) tussen de therapeut en de patiënt.

Hoofdstuk 5. Onderzoek naar forensisch psychiatrische muziektherapie behandeling

Om te toetsen of het behandelprogramma voldeed aan de behandel-eisen van forensisch psychiatrische patiënten is het onderworpen aan een empirisch onderzoek. De vierde deel-vraag van dit proefschrift luidt: *is het mogelijk om veranderingen in gedrag waar te nemen bij forensisch psychiatrische patiënten door een specifieke muziektherapeutische behandeling vanuit het RNR model?* Om te onderzoeken of de muziektherapie woedehanteringsmodule veranderingen kan bewerkstelligen is een empirisch, klinisch, exploratief onderzoek opgezet. Bij de uitvoering van het onderzoek zijn vijf muziektherapeuten uit vier verschillende forensisch psychiatrische klinieken betrokken. De deelnemers zijn getest tijdens muziektherapie aan het begin en aan het eind van de 6 maanden durende onderzoeksperiode. De voor- en nameting zijn opgenomen op video en gescoord door de muziektherapeut en een tweede observator (die niet wist welke deelnemers de muziektherapiebehandeling kregen). De deelnemers werden willekeurig toegewezen aan muziektherapie of wachtlijst. Alle deelnemers hebben een standaard behandeling binnen de kliniek gevolgd. Deelnemers van de muziektherapie conditie, hebben deelgenomen aan 20 één-uur durende individuele sessies van de gestandaardiseerde muziektherapie woedehanteringsmodule. De focus van de muziektherapeutische interventies heeft daarbij gelegen op het uitbreiden van coping vaardigheden en woedehantering. Deelnemers in de controle situatie hebben toevalligerwijs allemaal een alternatieve agressiehanteringsmodule ontvangen.

Door tegenslagen bij de dataverzameling, hebben slechts dertien van de 21 uit-

genodigde deelnemers hun hele onderzoeksperiode afgerond. Eén deelnemer heeft na zes maanden wachtlijst een complete cyclus van 20 sessies muziektherapeutische woedehantering afgerond. Zo zijn in het totaal 14 complete datasets verkregen. Negen deelnemers hebben muziektherapie toegewezen gekregen en vijf dienden als controle groep. De scores van de voor- en nameting zijn statistisch met elkaar vergeleken.

De resultaten suggereren dat bij alle deelnemers hun agressieregulatie verbeterde, ongeacht of ze muziektherapie kregen of dat ze in de controlegroep zaten. Alle deelnemers verbeterde hun coping- en woedehantering vaardigheden. De zeer summiere data suggereerde dat deelnemers aan muziektherapie meer positieve coping vaardigheden gebruikten. Vanzelfsprekend zijn deze uitkomsten niet te veralgemeniseren, daarvoor is het aantal patiënten en de 'statistische power' van het onderzoek veel te beperkt (voor $N=14$, en een lage effect verwachting $d=0.3$ is de statistische power $=0.12$; maar ook bij een hoog effect van $d=0.8$ kom je slechts tot een statistische power $=0.53$). Daarom zijn de resultaten alleen zeer voorzichtig geïnterpreteerd.

Hoofdstuk 6. Theoretische bijdrage aan muziektherapie onderzoek

Met slechts zeer beperkte empirische resultaten en de beperkte literatuur over mogelijk effecten van muziektherapie binnen de forensische psychiatrie probeert hoofdstuk 6 een verklarende theorie te geven waarom muziektherapie toch eventueel ingezet kan worden voor primaire doelstellingen als behandeldiscipline in de forensische psychiatrie. Door vier verschillende invalshoeken te combineren wordt een verklaring geconstrueerd over wat muziektherapie zou kunnen bijdragen aan primaire behandeldoelen binnen de forensische psychiatrie.

In de eerste plaats lijkt muziektherapie de ontvankelijkheid van de meeste forensisch psychiatrische patiënten aan te spreken. Hun muzikale interesse past bij hun sociaal-culturele achtergrond en wakkert hun verlangen naar vrijheid aan, wat een motiverende factor kan zijn om deel te nemen aan behandeling via muziektherapie.

In de tweede plaats, kan de mogelijke neurologische invloed van muziek systematisch worden toegepast binnen de forensische psychiatrie. Onderzoek suggereert dat muziek het beloningssysteem van mensen stimuleert en daardoor gebruikt kan worden om adequaat gedrag te bekrachtigen. Muziek kan toegepast worden om emoties op te roepen, maar doordat de emoties door de hersenen geïmiteerd worden, creëert muziek ook een afstand in het ervaren van emoties. Het scheppen van zo een afstand is cruciaal in de forensische psychiatrie, omdat het behandeling van 'gevaarlijke' gedrag van forensisch psychiatrische patiënten mogelijk maakt, zoals woede-uitbarstingen of agressie, terwijl het de kans op geweld naar de muziektherapeut beperkt. Ook kan muziek vanuit een neurologisch perspectief cognitief functioneren beïnvloeden zoals plannen, problemen oplossen, of zich op anderen afstemmen, wat samenwerking bevordert.

Ten derde suggereert onderzoeksliteratuur vanuit de forensische psychiatrie dat een cognitief-gedragsmatige benadering het meest effectief is voor deze populatie. Als muziektherapie cognitief-gedragsmatig wordt toegepast, maakt het herhaalde training van nieuw aangeleerd gedrag of ontwikkelende vaardigheden makkelijker. Indien methodisch goed aangeboden, door een goed opgeleide muziektherapeut, kan muziek confronterende emoties (als woede en razernij) gecontroleerd weergeven, en kan muziek de kans minimaliseren dat de emoties uit geageerd worden.

In de vierde plaats, hoewel de resultaten zeer beperkt zijn, zou muziektherapie theoretisch gezien patiënten kunnen helpen zich te richten op primaire doelen van forensisch psychiatrische behandeling: minimaliseren van recidive kans door het ontwikkelen van (coping, woede regulatie) vaardigheden en gedragsverandering. In nauwe samenwerking met multidisciplinaire behandelstaf, kan een indicatie voor muziektherapie opgesteld worden, gericht op specifieke risico factoren en ontbrekende vaardigheden van een patiënt. Hoewel de resultaten van de exploratieve studie zeer beperkt zijn, lijkt het literatuuronderzoek (werk)assumpties te suggereren voor een theoretische basis van cognitief-gedragsmatige muziektherapie binnen de forensische psychiatrie.

Als antwoord op de hoofdvraag van deze dissertatie: "*Kunnen we een theoretische kader vervaardigen, via literatuuronderzoek en empirische studies, die de mogelijke effecten van muziektherapie verklaart binnen de forensische psychiatrie door het bevestigen van de kernaspecten, risico, ontbrekende vaardigheden en ontvankelijkheid van forensisch psychiatrisch patiënten met persoonlijkheidsstoornis als primaire diagnose?*" kunnen we zeggen:

Momenteel is er geen eensluidend bewijs voor de effectiviteit van muziektherapie binnen de forensische psychiatrie. Daarom zou muziektherapie binnen de forensische psychiatrie zich verder moeten ontwikkelen via systematisch en methodisch toepassen van de neurologische invloed van muziek door muzikale interventies die: (a) hun basis hebben in de cognitieve-gedragstherapie, (b) uitgevoerd worden door een geaccrediteerde muziektherapeut, (c) gebaseerd zijn op onderzoek en kennis uit de forensische psychiatrie, muziektherapie en neurowetenschappen, (d) confronterende emoties/ gedrag bewerken en/of individuele doelen bereiken, (e) gericht zijn op verandering of ontwikkeling van de primaire ontbrekende vaardigheden zoals gedragsmatige, cognitieve en sociale veranderingen, en (f) gekaderd zijn binnen een therapeutische werkrelatie met een forensisch psychiatrische patiënt, die risico-gedrag heeft getoond tijdens muziektherapeutische observatie en ontvankelijk is voor muziek.¹

¹ Delen uit deze tekst zijn terug te vinden in: Hooren, van S.A.H., Vink, A.C., Poismans, K., van Bruggen-Rufi, M., & Hakvoort, L. (2014) De klemtoon op muziek in therapie [The accent on music in therapy]. *De Psycholoog* (In press).

Curriculum vitae

Laurien (Gemma) Hakvoort is a senior registered music therapist of the Dutch foundation certification board for music therapy (SRVB), as well as a fellow of the R.F. Unkefer Academy of Neurologic Music Therapy, Center for Biomedical Research in Music, Colorado State University.

Laurien received her BA in Creative Therapy specialization Music from Hogeschool Midden Nederland in 1993. She was awarded a VSB-bank grant to study at a music therapy master program in the USA. She completed her MA in Music Therapy (with honors) in June 1994 at the Conservatory of Music, University of the Pacific (UOP), Stockton, CA, U.S.A. She was awarded a UOP Conservatory Graduate Scholarship for Outstanding Student. She is member of the American Honor Society of Phi Kappa Phi (φκφ) for outstanding academic achievement and member of the American Honor Society of Pi Kappa Lambda (πκλ) for outstanding musical achievement.

Since 2001, Laurien is a senior lecturer in the music therapy department of ArtEZ School of Music. She worked for 17 year as a music therapist in forensic psychiatry at FPC de Oostvaarderskliniek, which she combined with a research position for eight years. She has been active in various board memberships of the Dutch Music Therapy Association as well as the SRVB. Currently, Laurien holds a private practice as a music therapist: at Muzis Muziektherapiepraktijk (www.muzis.net).

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