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Arts Therapies Interventions and Their Outcomes in the Treatment of Eating Disorders: A Scoping Review

MASTER'S THESIS

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I hereby declare that I have worked on this thesis independently using only the sources listed in the bibliography.
Further, I declare I have cooperated with colleagues from the Center of Evidence-based Education and Arts Therapies: A JBI Affiliated Group.
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and Kristýna Karasová B.A. – second reviewer of the data extraction of 7 studies

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Abstract

The thesis focuses on arts therapies (AsTs) interventions in the treatment of eating disorders (EDs). Four modalities of AsTs are at the centre of attention of the thesis, namely music therapy (MT), art therapy (AT), dance/movement therapy (D/MT) and dramatherapy / psychodrama. An aim of this thesis is to investigate and map the range and scope of interventions and outcomes related to AsTs in the treatment of EDs. Methodological framework of scoping review was applied in the thesis in order to map, identify and synthesize available research evidence within the field. Searches through anumber of databases (CINAHL Plus, EMBASE, MEDLINE (OvidSP), ProQuest Central, PsycINFO, PubMed, Scopus, and Web of Science) were undertaken based on key words and allowing for identification of 1722 records. All records have been assessed on level of title and abstract and if considered as relevant, full-texts of the articles have been obtained. Based on inclusion and exclusion criteria, 62 studies have been included in the final data set. The final data set contains 23 studies in modality of AT, 16 studies in modality of MT, 10 studies with focus on dramatherapy/psychodrama, 7 studies applying D/MT interventions and 6 studies with a multimodal approach of arts-based interventions. In view of the results it was possible to identify a broad variety of AsTs interventions applied in the treatment of EDs. Furthermore, based on thematic analysis, AsTs show promising outcomes in providing useful tools for reducing symptoms of EDs, enhancing emotional expression, gaining important insights and learning coping skills. However, 69% of all studies describe clinical cases undertaken without the use of specific methods for data collection and assessment. This underlies a need for more quantitative research studies and application of standardized methods for data collection for future research.

Key words: eating disorders, arts therapies, music therapy, art therapy, dance/movement therapy, dramatherapy, psychodrama, scoping review, anorexia nervosa, bulimia nervosa

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LIST OF ABBREVIATIONS

AN – Anorexia Nervosa

ARFID - Avoidant-Restrictive Food Intake Disorder

AsTs - Arts Therapies

AT – Art Therapy

BN – Bulimia Nervosa

BED - Binge Eating Disorder

D/MT – Dance/Movement Therapy

DSM - Diagnostic and Statistical Manual of Mental Disorders

ED – Eating Disorder

EDs – Eating Disorders

EDNOS – Eating Disorder not Otherwise Specified

ICD - International Statistical Classification of Diseases and Related Health problems

OSFED - Other Specified Feeding or Eating Disorder

PD – Purging Disorder

MT – Music Therapy

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Introduction

Eating Disorders (EDs) are a group of complex mental illnesses that endanger patients not only on the psychological level, but additionally represent a threat for their physiological health with serious social consequences (Shapiro, 2012). Moreover, EDs are identified as mental illnesses with one of the highest mortality among other psychiatric disorders (Crow et al., 2009). There is a need for a broader variety of treatment options to provide patients with the best possible interventions corresponding with their needs.

Arts Therapies (AsTs) use arts-based interventions through therapeutic processes to offer valuable tools for effective treatment for patients with EDs (Dokter, 1994; Heiderscheit, 2016; Hornyak & Baker, 1989). However, the scope and range of research studies on treatment of patients with EDs within the field of AsTs is not known. In the present thesis, the practice of four modalities of AsTs within the field of EDs will be investigated, namely Music Therapy (MT), Art Therapy (AT), Dance/Movement Therapy (D/MT) and Dramatherapy/Psychodrama. The methodological framework of Scoping Review (SR) is applied within the thesis and aims to investigate available evidence in the field of AsTs and their application in treatment of EDs. The present thesis follows the author's previous thesis (Bucharová, 2021) and is a pre-investigation of result of ongoing scoping review based on earlier published protocol (Bucharová et al., 2020).

The thesis is divided into two main parts, the theoretical part and the empirical part. In the theoretical part, an overview of recent evidence from the field of EDs is presented. Furthermore, each modality of AsTs is characterized both independently and in application in the treatment of EDs. The empirical part consists of two main chapters: methods and results. The chapter on methods provides the reader with information regarding scoping review and specification of methodological aspects of the thesis. The chapter on results is further divided into six subchapters. Four subchapters provide results of each modality of AsTs, while one subchapter focuses on the results of arts-based multimodal approaches. The last subchapter of the chapter on results presents a narrative synthesis of outcomes related to AsTs in the treatment of people with EDs. In the final part of the thesis, discussion brings insight into the results in a broader context and puts forth suggestions for future research.

THEORETICAL PART

1 Eating Disorders

EDs are a group of complex mental disorders that have been on the rise throughout the world. As the global pandemic of Covid-19 emerged, there have been direct consequences on the mental health of individuals. As current data indicates, suicidal ideation increased over the pandemic and is concerning especially among young adults (O'Connor et al., 2021). Symptoms of disordered eating were not an exception and were worsened during pandemic lockdowns (Gao et al., 2022). These led in some cases to increased anxiety and depression symptoms, subsequent changes in dietary habits, eventually concluding in worsening ED symptoms. Seeking effective treatment options is even more relevant and needed.

The International Statistical Classification of Diseases and Related Health Problems (11th ed.) describes general characteristics of Feeding and Eating Disorders along with the diagnostic requirements (World Health Organization, 2019). Feeding and Eating disorders include abnormal eating or feeding behaviours that cannot be explained by another health condition and that are not appropriate in regards to the developmental level or culturally sanctioned (World Health Organization, 2019). EDs are associated with unhealthy preoccupation with food and body weight and shape concerns. The following diagnoses are included in the manual: Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED), Avoidant-Restrictive Food Intake Disorder (ARFID), Pica, Rumination-Regurgitation Disorder and Other Specified Feeding of Eating Disorders (OSFED). OSFED is used in cases when diagnostic criteria cannot be fulfilled for a specific ED.

Specific diagnostic criteria and a description of each ED diagnosis has been described in the previous master's thesis (Bucharová, 2021) along with specific data regarding epidemiology, aetiology, prevention, mortality, comorbidities, treatment options, and therefore will not be described on a large scale within this thesis. However, the next chapter will focus on recent evidence regarding EDs which address issues of stigmatization, prevalence, early detection, aetiology and others.

1.1 Recent Evidence in Field of Eating Disorders

People with EDs can experience difficulties in all domains of their life. To live with an ED can have significant consequences on physiological and psychological level of patients' life

(Shapiro, 2012). Furthermore, EDs have been recognised as a group of diagnoses with common stigma among the general population. The recent scoping review of Brelet et al. (2021) has investigated stigmatization toward people with AN, BN and BED based on 46 studies published between 2004 and 2021. Their review confirmed existing stigma toward EDs. Specifically, all individuals affected by EDs were perceived responsible for their health situation, and their situation was connected with negative emotions and social distancing from the public. Even more specific outcomes indicate that men, young adults, and low-income individuals appear to reflect the most stigma towards individuals with EDs (Brelet et al., 2021). Stigma towards EDs can have a negative effect on treatment-seeking behaviour and psychological wellbeing of patients with EDs, so it is important to educate the population to prevent stigmatization behaviour.

Apart from stigma there is another huge aspect that has recently been investigated through a meta-analysis, shame. Through synthesis of findings from 195 studies, association between shame and EDs was investigated. Results of the study indicate a significant association between shame and all types of EDs symptoms. Specifically, body shame and shame around eating were strongly related with EDs pathology (Nechita et al., 2021). As the authors suggest, directly targeting body shame and shame around eating might be beneficial for the overall treatment process of EDs.

Kalindjian et al.'s scoping review of Early detection of EDs is a reminder of the importance of the early detection of EDs which can lead to improvement in terms of prognosis, decreasing morbidity and mortality and prevent the chronic course of the disease. Early detection is closely connected with secondary prevention, and its importance should not be overlooked. 43 articles were included in the scoping review. There is an important result that needs to be highlighted. Findings indicate that professionals, whatever their profession, liable to be involved in the early detection phase lack crucial knowledge of symptoms and possess only partial knowledge of the symptoms needing to be recognised for the early identification of EDs (Kalindjian et al., 2022). It could be helpful to implement steps that would improve the knowledge of professional carers which could be done e.g. by e-learning education. Further, the authors suggest an option to educate sport professionals, trainers, instructors, school personnel and other specialists working with children/adults, especially in fields with higher risk.

The prevalence of EDs varies according to specific regions, gender and other characteristics. A recently published update on the prevalence of EDs in the general population has added 18

studies to its previous analysis (Qian et al., 2013, 2021). However the prevalence emerging from the recent systematic review might be underestimated as not all types of EDs were included in the majority of epidemiological surveys. Results suggest a 1.89% lifetime prevalence of EDs in Western countries, with a higher percentage (2.58%) in females (Qian et al., 2021). However, the frequency of using DSM-5 criteria in analysed studies was scarce.

Prevalence of EDs and disordered eating in Western Asia was investigated in a form of systematic review with meta-analysis by Alfalahi et al. (2021). Twenty-seven studies were included in the final meta-analysis and were namely from Israel, Iran, Lebanon, Syria, Jordan, Pakistan, Saudi Arabia and the United Arab Emirates. 16 countries were originally chosen for the study, however only 50% of the countries could engage in the systematic review based on the inclusion criteria. To identify the presence of disordered eating and EDs, tools for categorization were used. The authors conclude that the outcomes obtained by semi-structured interviews indicate a similar prevalence rate and are in parallel to the international range, however the overall disordered eating indicated a bit higher prevalence as compared to the global rates.

Another recent systematic review analysed 39 studies to determine prevalence of BED among children and adolescents. The results of the study indicate a prevalence of BED in children and adolescents to be 1.32% and a subclinical BED to be 3.0% (Kjeldbjerg & Clausen, 2021). However results have been influenced by high heterogeneity. These findings suggest that BED seems to be as frequent as AN and BN among children and adolescents therefore treatment of BED should be prioritized on the same level.

Anderson et al. (2021) present a framework with an assumption that a specific factors can predispose an individual to develop a maladaptive disgust-based avoidance behaviours as a response to a previous aversive learning experience. In the recent literature review, the role of disgust in ED has been investigated. As the authors concluded, disgust is a promising risk and maintenance factor in EDs (Anderson et al., 2021).

2 Arts Therapies and Eating Disorders

There are four modalities of AsTs being investigated in the thesis. Music therapy, art therapy, dance/movement therapy and dramatherapy/psychodrama. Each of the AsTs is organised by specific professional associations and has distinguished background of development, methods and techniques and specifications. Each modality can offer different interventions engaging different senses in the creative process. There are various approaches to each AsT depending on the therapist and his education and experience. Altogether, AsTs are considered as a valuable treatment option for many health issues or for self-development. In the following chapters, each modality of AsTs will be described to provide a basic understanding of each domain.

The verbal defence and all kinds of defence mechanisms such as rationalization or intellectualization are commonly used by persons with EDs. Therefore, a nonverbal level of accessing emotions is beneficial and the use of art can help to bring relevant issues to the centre of attention aiding the therapeutic process.

2.1 Music Therapy

MT as a profession emerged from a variety of professional disciplines in different countries (Jacobsen et al., 2019). This means that definitions of MT as a discipline and profession can be different depending on the particular group of practitioners and on various culture backgrounds. The American Music Therapy Association defines MT as the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy training program (American Music Therapy Association (AMTA), n.d.). Further, AMTA adds that MT interventions can address a variety of healthcare and educational goals such as; promoting wellness, managing stress, alleviating pain, expressing feelings, enhancing memory, improving communication, promoting physical rehabilitation and many others. Not all the interventions using music as a tool can be described as MT. Using musical activities in a non-therapeutic way does not refer to MT practice (Kantor et al., 2016).

MT as we know it now has emerged from several disciplines including general psychology, psychotherapy, special education, occupational therapy, music psychology, music education, medicine, health care and anthropology (Jacobsen et al., 2019). MT is used in

various settings and each MT process can be aimed at different goals. Both clinical and non-clinical populations are in use of MT interventions. In non-clinical environments, people can use MT processes to explore their resources, achieve a better health condition or get to know themselves and their needs better (Jacobsen et al., 2019).

2.2 Music Therapy and Eating Disorders

Considering MT as an action-oriented treatment approach, it seems beneficial to implement this therapeutic approach into the treatment options of people with EDs. This means MT is well suited to persons who need to learn how to use action and embodiment to express their difficulties (Loth, 2016). A music therapist works with patients suffering from an ED frequently as a part of a multidisciplinary team being involved in various stages of treatment and settings. Being a part of multidisciplinary team offers an opportunity to see the patient and his needs in the bigger picture which can be useful for the therapeutic process. Punch (2016) points out the importance of music therapists' reflection on what he can realistically offer in order to contribute to the patient's treatment process especially in the acute setting (Punch, 2016). Music therapists should avoid views around "fixing" patients and rather focus on supportive forms of therapy. As Punch (2016) describes, each part of the therapeutic process can be seen as a piece of the puzzle in a patient's recovery. Each puzzle piece contains a resource that can aid in of enhancing resilience during the recovery process.

However, music therapists can work also in community setting or out-patient setting. All the therapeutic processes need to be adjusted to the patient's needs and possibilities according to the actual stage of EDs treatment. Loth (2016) gives the following example: for severely underweight patient at the beginning of his treatment with a limited cognitive capacity, a supportive approach can be of use, while a motivated patient who has already processed and worked through the most difficult symptoms can benefit from an approach focused on understanding his problems and needs and self-exploration. According to Punch (2016), the ideal situation in an acute inpatient setting for patients with EDs would be for all patients to begin with intensive individual or group music therapy sessions. However, this desirable practice in the acute care is mostly not feasible.

When working with patients with EDs, MT has an advantage in its colourful approach options and a palette as a frameworks for understanding the illness. MT can address and engage with specific characteristics and needs in different ways. Musical improvisation (with or

without structure, role plays), receptive methods (relaxation, guided imagery to music, song lyric discussion, responding to music through art, movement or writing) and composing (songwriting) are examples of methods of MT that can be used with patients with EDs (Loth, 2016; Tileston, 2013). Both individual and group settings are possible when working with patients with EDs. There is a variable degree of verbal reflection within MT structures depending on the approach and methods used.

Each music therapist uses a different approach, and framework and identifies his therapeutic background with related psychological theory. There are a lot of psychological frameworks that can serve as a basis of a therapist's work and each approach focuses on a specific goal, tend to use specific techniques and work with a different premise. McFerran & Heiderscheit (2016) gave an example of four psychological theories that are often used when working with patients with EDs in a practice by music therapists and described MT techniques coming from each of them. The psychodynamic theory works with the premise that uncovering and identifying an unconscious conflict is an essential step within therapy that will allow the patient to understand how to move through the struggle. The humanistic theory explores and discovers the potential of each individual and aims to support the patient on his way to self-actualization while cognitive-behavioural theory works mostly with maladaptive behaviours and distorted cognitive processes along with emotions that are connected with them and try to change them using therapeutic means. Lastly, ecological theory underlines the importance of the environment that influences human experiences and enables patients to look outside of him to understand the impact of external systems in his life (McFerran & Heiderscheit, 2016; Prochaska & Norcross, 2014). As McFerran & Heiderscheit (2016) note, an eclectic approach might be particularly relevant for patients with EDs since their disorders exist and emerge in great complexity. However, they do not suggest sticking to one approach, contrarily, each patient evokes a different theory about what cause is unique in an individual context. Therefore, a music therapist needs to combine theories that match his patient with methods that he is competent to use.

McFerran & Heiderscheit (2016) further suggest that each theoretical framework connects with a specific MT method. The psychodynamic approach works with unresolved issues of the patient. It, therefore, focuses on building self-knowledge and the method used is improvisation. The humanistic approach takes into consideration genetic predispositions and focuses on positive experiences and patients' abilities. Congruent methods in this case are considered to be relaxation and singing. The cognitive-behavioural approach works with cognitive dysfunction and puts its focus on challenging distortions. Songwriting can be used

as a beneficial method when working within a cognitive-behavioural framework. The ecological theory is the fourth discussed approach and it emphasizes the response to external pressures and supports the patient to engage with the bigger picture. That is why performances both private and public are suggested to be used (McFerran & Heiderscheit, 2016).

To be heard and acknowledged when playing music can serve as an important experience for the patient (Loth, 2016). The patient does not have to do anything about it only experience this new feeling. Joint playing in musical improvisation gives the patient new impulses, new ways of understanding his feelings and an opportunity to reconnect with his other parts and with others (Justice, 1994).

Self-expression and integration of thoughts and emotions can be supported through the MT process which can be beneficial in patients with EDs. Receptive methods can enhance the learning of self-soothing skills which is needed particularly in patients with EDs.

As control is one of the prevalent characteristics of patients with EDs, free improvisation or playing without the structure can be a real challenge (Loth, 2016). However, the process of letting go and trying even just for a short moment to let things happen in the therapeutic process without control can be an important experience in the recovery process.

2.3 Art Therapy

Art therapy uses art and the creative process of art-making as the primary means of the therapeutic process. American Art Therapy Association defines AT as “an integrative mental health and human services profession that enriches the lives of individuals, families, and communities through active art-making, creative process, applied psychological theory, and human experience within a psychotherapeutic relationship” (American Art Therapy Association, 2022). The process should be facilitated by a certified art therapist and can be used to improve cognitive and sensory-motor functions, cultivate emotional resilience, grow self-esteem and self-awareness, enhance social skills and promote insight. Further, conflicts and distress can be reduced and societal and ecological change advanced (American Art Therapy Association, 2022).

The approach is used in various settings and with all kinds of patients regarding age and diagnosis. The emphasis is put on the process and expression itself instead of the product of the process. Therefore the art therapist does not focus on the aesthetic merits of art-making, instead, expression of the patient’s needs along with involvement in the creative process are

maintained (Malchiodi, 2011). Art can work as a stimulus for psychological growth and support. Art can help produce personal symbols or tap into universal themes (Hinz, 2006).

There are three levels of gaining knowledge for the therapist; observing the patient creating art, witnessing the process of producing art, and viewing the art product itself (Ball 2002; Schwartz 1996 as cited in Hinz 2006) All three ways of accessing knowledge and information regarding the patient are equally valuable.

Alike in verbal psychotherapy, art therapists intend to create a safe space and well-established relationship with the client. What differentiates art therapy from verbal therapy and also from other arts-based therapies is the use of art materials and the possibility of visual self-expression of the client. Art has the capacity to be a bridge from the inner self to outer reality and to embody the thoughts and feelings of the client. Image and other artwork have the role of mediators (Case & Dalley, 1992).

There is a vast array of art media being used by art therapists as well as materials, processes and techniques. Drawing, painting, clay and collage can be listed among the basic materials generally used (Malchiodi, 2011). Each of the media has its own advantages, clay is a malleable three-dimension medium, new parts can be added and emerging figures can be easily changed or transferred (Case & Dalley, 1992). Further traditional art materials can be described as resistive to fluid in their nature (Lausebrink, 1990). Resistive media resist easy alteration while fluid media is more difficult to control since their nature is easily altered. Therefore media belonging to the group of fluid media such as chalk pastels and watercolour paints are likely to awaken emotions (Hinz, 2015). According to other authors, media can be put on the continuum between least controlled and more controlled (Landgarten, 1987). Further, media can be described as highly structured or boundary-determined and on the opposite side of the continuum, there are media less structured with no inherent boundaries also described as quantity-determined. Hinz (2015) described highly structured media as those to provide a safe, controlled art therapy experience. Wood or mosaic tiles can be examples of these. On the other hand, watercolour is an example of a quantity-determined material which is limited by the amount of used medium.

2.4 Art Therapy and Eating Disorders

Hunter (2016) underlines the importance of the first session with clients with EDs. The initial session should be capitalized by the therapist on the process of joining with the client maintaining a creative atmosphere, trust and hope (Hunter, 2016a). This importance is underlined by the following premise; once the client is prepared to join with the therapist and work together toward recovery, the potential of the moment should be used to its maximum since the state is commonly ephemeral.

Hinz (2006) has a huge experience working with patients with EDs using AT interventions. She describes the importance of mastering and growing competencies with media usage. However, the sense of mastery and control is different from the usual sense of control that patients with EDs commonly have. In the art therapy context, the person, not the disorder is in charge of the process. Therefore, the patient involved in art-making is no longer prisoned by the ED, at least for the time of the art-making process (Hinz, 2006). This refers to common controlling behaviour observed in patients with EDs. Furthermore, a completed product can establish a great sense of pride in the patient.

Being terrified of chaos and loss of control is the issue patients with EDs often present in the recovery process. Art therapist, therefore, needs to enable patient to use the process as a way to work through instead of act out through the medium (Levens, 1990). Levens (1990) further discusses patients' issue of not knowing who they are while facing ED for a long time, which may result in an inability to create lines and form. For instance, when patients with AN are faced with a white empty sheet, it can be terrifying.

Enabling the patient to express his feelings, emotions, memories or anything else that can be difficult to put into words, can be simplified using colours, shapes or lines. In this context, the image can be perceived as a shortcut to expressing difficult concepts and feelings (Hinz, 2006).

Also, Rabin (2003) experienced verbalization being used to cover up denial in the art process and is not a source of authentic communication. In her practice, she asked the client each time client finished the picture or the sculpture to describe in words what it is. Then she recorded the exact words used by the client and later she gave an opportunity directly to the client to do so for herself. With an adequate distance in time, the client can become an observer of its meaning. Rubin (2003) described that the simple client’s act of looking at the work allows achieving perspective on her own. Oftentimes, the client describes his artwork very differently compared to the times he has created it and what he has spoken about it by that time. The client

understands that the previous description he has created “didn’t match his picture”. “Over and over in the treatment, the client comes to see himself as the “I” he really is deep down” (Rabin, 2003, p. 24).

2.5 Dramatherapy/Psychodrama

The British Association of Dramatherapists describes dramatherapy as a “form of psychological therapy that may include drama, story-making, music, movement and art” (The British Association of Dramatherapists, 2022). Dramatherapists use a wide range of dramatic techniques in both verbal and non-verbal ways. Verbal techniques such as vocalisation, story making and talk are being engaged along with non-verbal techniques working with embodiment and movement. Dramatherapy is applied in various settings and patients with various diagnoses and issues can benefit from the process. In Britain, dramatherapist is a person who underwent certified training with an approved course at a university and is registered and regulated by the Health and Care Professions Council.

A large percentage of the research on DT and EDs states that as an intervention DT often includes a level of psychodrama (Dokter, 1994; Pellicciari et al., 2013). According to the British Psychodrama Association, psychodrama “employs guided dramatic action to examine problems or issues raised by an individual” (The British Psychodrama Association, 2022). Psychodrama was developed by Jacob L. Moreno and uses experiental methods, sociometry, role theory and group dynamics. Insight, personal growth, and integration on cognitive, affective, and behavioural levels can be facilitated through psychodrama. Further, past, present and future life events can be explored through action methods. New roles can be practised in a safe way and can prepare patients for a change in everyday life.

2.6 Dramatherapy/Psychodrama and Eating Disorders

Jacobse (1995) described a developing Dutch method in the treatment of patients with AN and BN in the Netherlands. As in other arts-based therapies, dramatherapy is applied within a multidisciplinary team and patients with EDs have 75 minutes of dramatherapy weekly. Dramatherapy tries to support patients’ perception of their body and head as a whole and as Jacobse (1995) describes, this can be often a reason for patients to have a certain level of

resistance against dramatherapy. However, if patients with EDs overcome their resistance they get an opportunity to be confronted with their problems by playing fictitious scenes.

Dramatherapist chooses a specific working method according to the patient's needs and development. Each element of the framework can assist in evoking different aspects of behaviour – emotions, cognitions or transactions (Jacobse, 1995). The framework utilised in the Dutch method consists of four elements: acting as such, means of communication, role choice and functioning in the group. In the 'acting as a such' phase, patients are mastering their acting skills so that they can truly benefit from the dramatherapy sessions. The phase about communication is beneficial to understanding the possibilities and limitations of communication for each patient and if possible, the aim of this phase is to extend these possibilities. Limitations and possibilities in communication are directly connected with limitations and possibilities in acting. The last two phases (role choice and functioning in the group) are focusing on the social aspect of interaction. Dramatherapy can assist with the recognition of behavioural patterns in social interaction and provide means to change them.

It is evident that the relationship between food and the body is one of the central aspects of EDs. Psychodrama focuses on and teaches the importance of relationships and social roles obtained within these relationships. Carnabucci & Ciotola (2013) point out the possibility of psychodrama as a means to explore and change patients' relationship between food and the body. This can be also useful in the process of learning new, less damaging behaviours and supporting better emotional, physical and spiritual health. Psychodrama understands patients' behaviour as a role that needs to be recognised, identified, sorted, rehearsed and changed. At the end of the process, the role is integrated which holds a space for new roles and a new life with EDs (Carnabucci & Ciotola, 2013). Carnabucci & Ciotola (2013) describe an example of denial which is a common reaction for persons with EDs. Patients either deny they may have a problem or deny the possibility to get help from others. People who deny their problems can be perceived as ones who hold a role in the psychodramatic perspective and can be transformed from "the one who denies" into e.g. "the one who is curious". To change the perception from the point where we see pathology which needs to be defeated into the role that needs to be identified and eventually integrated can be a great step when working with patients with EDs.

As the feminist perspective suggests, women have usually been taught to not express their needs in the past and were supposed to be "silent and pretty" (Carnabucci & Ciotola, 2013). Women and girls are also a majority of people with EDs and therefore there is a need to learn to speak out their truth. Psychodrama can help with learning to accurately label patients' feelings and needs and most importantly can provide embodied role training for speaking up

and speaking the truth. Carnabucci & Ciotola (2013) suggest that these components are at the core of EDs healing process.

2.7 Dance/Movement Therapy

Association for dance movement psychotherapy describes dance/movement therapy (D/MT) as "a relational process in which client(s) and therapist engage creatively using body movement and dance, as well as a verbal and non-verbal reflection" (Association For Dance Movement Psychotherapy, 2022). Body movement is recognised as an implicit instrument of communication and expression. D/MT can be beneficial for various groups of individuals. Dance movement psychotherapists work with embodied interventions with a focus on lived experience in patients' social context, the experience of living in their own body, their relationship with their body and emotions that cannot be articulated through words. D/MT interventions are being used in individual and group therapy and are applied to clinical, community, educational and private settings (Association For Dance Movement Psychotherapy, 2022). Depending on the educational background and practice experiences of the dance movement therapist, each D/MT session can have a different course and each dance movement therapist can work with a different approach. Furthermore, D/MT implements and works with several elements. One of them is called kinesthetic empathy. As Fischman (2016) describes, kinesthetic empathy is a form of knowledge, contact and shared construction in many forms. Direct mirroring and affective attunement in the dance might be one of the forms through which kinesthetic empathy appears, however, analogy, metaphor, verbalization or telling a story can be also a possible way.

The dance is seen as naturally therapeutic by D/MT for its three components: physical, emotional and spiritual. Further, dancing enhances the sense of community and sharing of rhythmic action of the music (Chaiklin, 2009). Dancing can bring the possibility to relate to the group on a community level and at the same time enables people to express their own needs and impulses on a personal level. Sharing through dance in a group gives validation of a person's worth but can also encourage an individual to go beyond his personal limitations and concerns. Chaiklin (2009) describes the connection between the body and psyche. To speak about the body, it is not possible to talk about the body and functional aspects of the movement without considering how emotions and psyche are influenced by our thinking and what is the interaction between all of the components. The process of dancing helps to externalize

something from within and as Chaiklin (2009) states, it is rather a statement of one's feelings and energy than an exercise that needs to be accomplished.

2.8 Dance/Movement Therapy and Eating Disorders

EDs represent a great example of mental disorders where the body and mind connection is one of the key issues that should be brought to attention. When considering the best treatment options, it is beneficial to bear in mind, particularly the relationship between body and mind and search for interventions that can ease the process of reconnection of the body awareness with mental states. Each individual is defined by his movement in all course of his life, from the first moments in his mother's womb until the moment of death. As movement happens through the body, a person's relationship with his body is manifested and lived through each move. People with EDs are often disconnected from the realistic awareness of their body and their experience of embodiment and sense of being in their bodies as well as their body image itself has become distorted (Kleinmann, 2009). Kleinmann (2009) states that persons with EDs avoid a dance at all costs since dance is full of life and expressive movement. This is connected with their tendency to control their feelings.

When working with persons with EDs, D/MT can be a part of a multi-professional team in a health care setting, as it already is for example in Latvia, or can be realised in a private setting. In Latvia, D/MT is recognised as a health care profession by the national health service (Vende et al., 2015), therefore dance movement therapists can work within a team with patients with EDs in all stages of treatment whenever their interventions are needed. Dance/movement therapist uses an integrative approach which consists of components from various theories (psychodynamic, humanistic, patient-centred) when working with patients with EDs in Latvia. As a means of assessment, Laban Movement Analysis and Kestenberg's Movement Profile are used for the evaluation of the therapeutic process (Vende et al., 2015).

Similarly, as in other therapeutic approaches, the beginning of the D/MT process is focusing on the relationship between the client and the therapist however the emphasis is also given to the awareness of physical sensations. Vende et al. (2015) correspondingly to Kleinmann's (2009) words stress the relationship between body and emotions as one of the main issues addressed in D/MT with clients with EDs along with exploring body image and self-esteem. Techniques used within D/MT process can be movement development, mirroring, amplification/reduction of movement, development of communication skills, development of

movement metaphor or offering movement themes and many others (Vende et al., 2015). Techniques and activities can have a verbal reflection or other feedback techniques as a way of integrating an experience.

D/MT practice with patients with EDs further incorporates the creative-change cyclic model by Meekums (2002) which consists of four stages: preparation, incubation, illumination and evaluation. The process starts with warm-up (preparation) activities gradually engaging the creative process (incubation) leading the patient into the less conscious states of the brain. As the patient manages to access intuitive processes it might lead to the release of unconscious information. Images, metaphors or symbols might arise and the patient starts to learn about his recently revealed information (illumination) and try to understand them. In the end, the client reflects along with the therapist (evaluation) and explores the new experiences of the process.

EMPIRICAL PART

3 Methods

The thesis is a follow-up to my earlier thesis (Bucharová, 2021), broadening its focus to all modalities of AsTs. Most importantly, the thesis is following early published protocol and brings the first results of analyses (Bucharová et al., 2020). The thesis is carried out in a methodological framework of scoping review. For the purposes of the thesis, scoping review is limited compared to the ongoing scoping review conducted within the team. More detailed analyses considering studies without language limitations in the team are going to follow. However, the thesis serves as an important base for the team to the completion of the scoping review. The research is conducted according to the JBI methodology for scoping reviews (Aromataris & Munn, 2020, Peters et al. 2020).

3.1 Scoping Review

Scoping review is an approach to evidence synthesis and is being increasingly utilized internationally. Arksey and O'Malley (2005) provided one of the first methodological guides for this type of review and reflected on the appearance of scoping reviews in the literature. However, Scoping review Methodology Group emerged in 2014, consisting of members of JBI and the JBI Collaboration and subsequently published JBI's first chapter and peer-reviewed paper with guidance for authors conducting scoping review (Peters et al. 2020). Further, Preferred Reporting Items for Systematic Reviews extension for Scoping Reviews (PRISMA-ScR) was created by an international team of experts in scoping review and evidence synthesis (Tricco et al., 2018).

There are several reasons for conducting the scoping review. Scoping review allows to map and summarize the evidence, explore the scope and depth of the literature, identify research gaps and inform future research (Tricco et al., 2016).

3.2 Research Purpose and its Objectives

Currently, the systematic review or scoping review with a complex overview of the use of AsTs in the treatment of EDs is missing. Based on the published narrative reflections, AsTs have

been clinically used as a treatment approach with patients with EDs and imply a generally positive outcome, however empirically valid studies with more robust methods of randomized control trials are scarce (Frisch et al., 2006; Karkou & Sanderson, 2006).

Therefore the intention of scoping review is to investigate and synthesize research evidence, aiming to map out the literature in the area of AsTs interventions and their outcomes in their treatment of EDs. Scope, extent and range of research activity undertaken in this are going to be examined which will allow determining the value of AsTs interventions and outcomes of the treatment. Further, the objective of the present scoping review is to categorize specific interventions used within each modality: music therapy, art therapy, dramatherapy and dance/movement therapy.

According to PCC format (P—participants/population, C—context, C—concept) two research questions were formulated:

- What types of arts-related interventions are used in the treatment of persons with eating disorders?
- What therapeutic outcomes are addressed in research studies on persons with eating disorders related to arts therapies?

3.3 Specification of the Search

The search in the databases was done in cooperation with the professional librarian PhDr. Zuzana Svobodová. The search was conducted in the following databases: CINAHL Plus, EMBASE, MEDLINE (OvidSP), ProQuest Central, PsycINFO, PubMed, Scopus, and Web of Science. Sources of unpublished studies and grey literature included Google Scholar, MedNar. For the selection of available evidence discovered through databases search, the following inclusion criteria were implied:

Participants: the review considered studies that included persons of any age with eating disorders, including persons with various comorbidities.

Concept: the review considered any studies on AsTs, namely art therapy, music therapy, drama therapy and dance/movement therapy, as well as their combinations and expressive arts

therapies. Excluded were studies using arts for non-therapeutic objectives, e.g., for educational, personal, artistic, and other purposes.

Context: the review considered studies conducted in a broad geographical context or therapeutic setting without limitations.

Types of sources: the review considered all quantitative and qualitative research studies as well as systematic reviews, diploma thesis, and conference papers. Text, opinion papers, all types of non-systematic reviews, pre-conference abstracts, and bachelor theses were excluded. Language limitation: the review considered all research studies with available full-text in English.

3.4 Search Formula

Following search formula (with modifications based on the specifics of search engins) was applied within the search in databases:

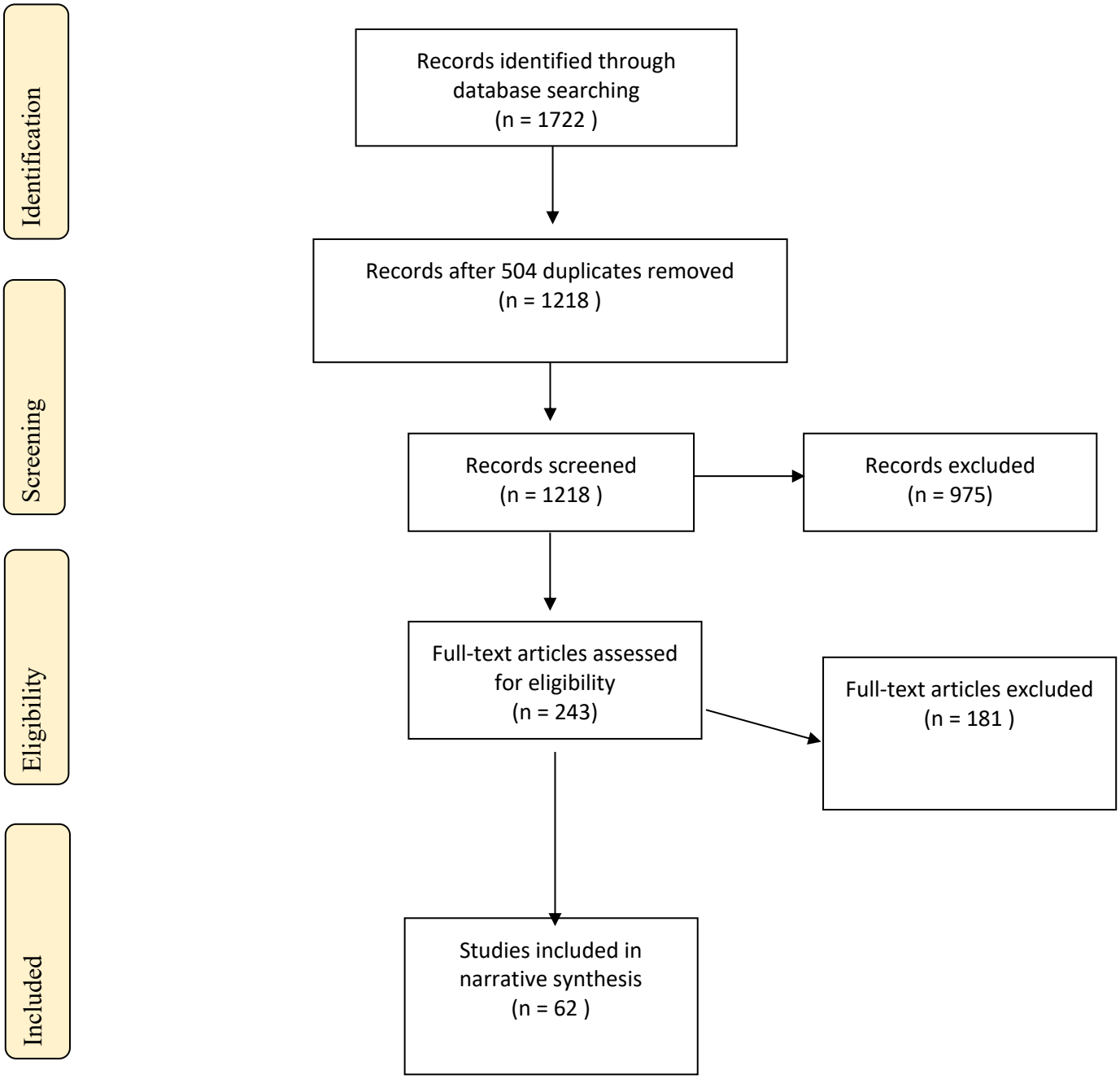
eating disorder * OR anorexia OR bulimia OR anorexia nervosa OR bulimia nervosa OR binge eating disorder * (binge-eating disorder * or binge-eating syndrome * could be used as preferred term in the database) OR pica OR hyperorexia OR night eating syndrome * (night eating disorder * could be used as preferred term in the database) OR overeating OR orthorexia nervosa OR food intake disorder *
AND
art therapy * OR art psychotherapy * OR music therapy * OR music medicine OR dramatherapy * OR drama therapy * OR psychodrama OR dance therapy * OR dance/ movement therapy * OR dance/movement psychotherapy * OR arts therapy * OR expressive therapy *.

3.5 Process of Study Selection

As the search within databases was completed, a full set of results was exported into Zotero V5.0.85. The overview of the process of study selection is recorded in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR) flow

diagram (see Figure 1. PRISMA Flow Diagram). 1722 records were identified through database searching. After the removal of 504 duplicates, there was a set of 1218 records prepared to be screened on the level of titles and abstracts for potential relevance. Two reviewers (MB and KK) independently assessed records in Zotero to select for full-text screening. If the decision was not clear, a third reviewer (JK) joined the process to make a decision together. A set of 243 articles was assessed against inclusion and exclusion criteria on the level of full-text screening by two reviewers depending on the arts-based modality: music therapy (MB and JK), dramatherapy (MB and KK), art therapy (MB and JK) and dance/movement therapy (MB and AM). The final number of 62 records was analysed for data extraction and was included in a narrative synthesis. To categorize outcomes into groups based on thematic similarity, thematic analysis has been done. Primary data extraction was done using the data extraction tool provided in Appendix A.

Figure 1. PRISMA Flow Diagram



4 Results

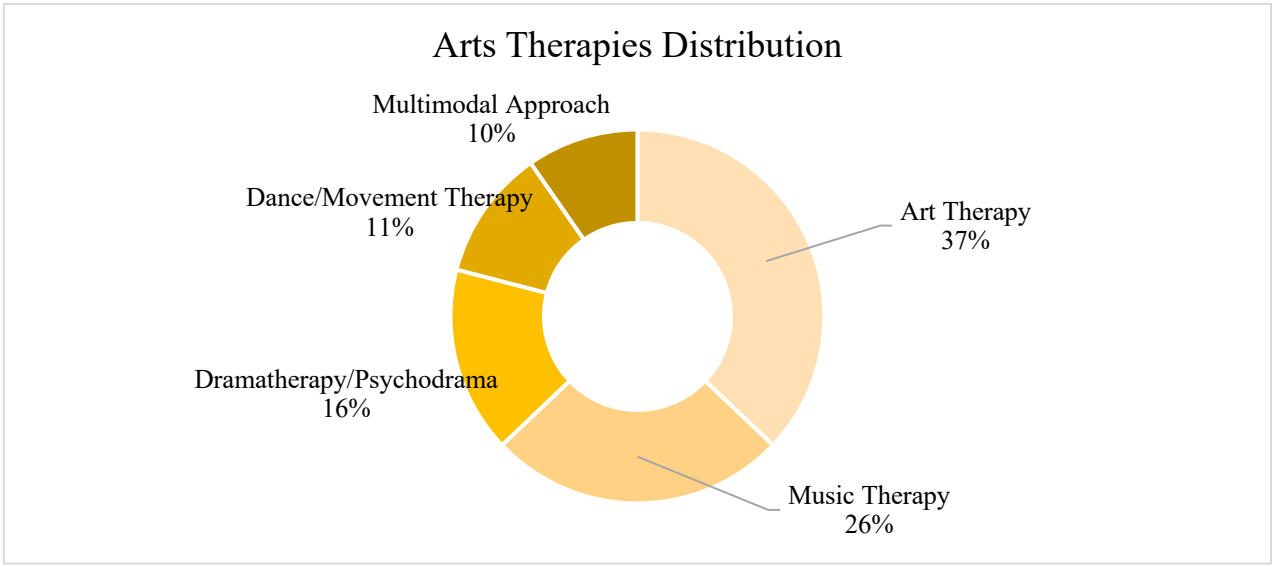
In the following section, the results of each modality will be described. Full-sized extraction tables for each modality of AsTs can be found in Appendices B – F.

There is a specification regarding terms used for the study design classification. Study classification was not an easy process as it was sometimes challenging to identify methods of data collection and specific methodology within the study. After consultation with the supervisor, the following terms are being used for the case study designs: case study and clinical case report. The term case study is being used for studies which use specific methods for data collection, e.g.: questionnaires. The term "clinical case report" is utilized in studies which bring narrative data, usually based on the therapist's perspective and notes.

All studies were conducted in various settings and contexts. When classifying the setting of the treatment interventions, outpatient and inpatient treatment were distinguished. In some cases, it was not possible to identify if patients were hospitalized and received arts-based intervention during the inpatient setting or attended each session. Therefore, there are studies with no specified information regarding the setting.

In total, 62 records were included in the scoping review. The highest number of records (23 records) was identified in AT field while only 6 studies were found using a multimodal arts-based approach. Sixteen studies with a focus on MT and its use in the treatment of EDs were found and ten studies in dramatherapy/psychodrama domain. D/MT contains 7 relevant studies. A graphical representation of study distribution among modalities can be seen in Figure 2.

Figure 2: Percentage of studies identified for each modality.



4.1 Music Therapy

16 studies were listed in the final set of MT. An overview of all studies included within MT's final data set is provided in table 1. Names of authors, along with the year of publication, study design, country and setting are included in the table. The final data set table is in appendix B.

4.1.1 Year and Country

As the year of publication was not limited, the final set contains studies ranging from the year 1989 until the most recent study being published in 2019. The oldest study by Nolan (1989) was published in 1989 followed by Heal and O'Hara's (1993) study along with Robarts' and Sloboda's work published in the book edited by Dokter; Arts therapies and clients with eating disorders: Fragile board (Dokter, 1994; Heal & O'Hara, 1993; Nolan, 1989; Robarts, 1994a; Sloboda, 1994). Other studies emerged at the beginning of the next century, with one publication by Robarts (2000), followed by Hilliard (2001) and later with McFerran (2006) and Trondalen's work in cooperation with other authors (Hilliard, 2001; Lejonclou & Trondalen, 2009; McFerran et al., 2006; Robarts, 2000a; Trondalen, 2003a; Trondalen & Skårderud, 2007). During 2010-2019, six records were published with the focus on the MT and EDs (Bibb et al., 2015, 2016, 2019; Heiderscheit & Madson, 2015; Karvonen, 2015, McFerran & Heiderscheit, 2016).

There are 4 studies from Australia and 4 studies from the United Kingdom. Three studies have been realized in Norway. Two studies have been conducted in the USA and one study in Germany. Clinical case reports published by McFerran & Heiderscheit (2016) in a chapter called *A multi-theoretical approach for music therapy in eating disorder treatment* in a book by Heiderscheit *Creative Arts Therapies and Clients with Eating Disorders* did not specify a country in which the clinical cases appeared. Since one of the authors is settled in Australia and the second author comes from the USA, these case examples probably came from one of these two countries. The overview of country frequency can be seen in table 2.

Table 1. Characteristics and summary of included MT studies.

Author, year	**Study design, country and setting**
(Bauer, 2010) Music Therapy and Eating Disorders- A Single Case Study about the Sound of Human Needs.	Clinical case report, Germany, Outpatient psychotherapy service
(Bibb et al., 2015) The role of music therapy in reducing post meal related anxiety for patients with anorexia nervosa	Quantitative, quasi-experimental design Australia, Adult Eating Disorder Inpatient Program
(Bibb et al., 2016) 'Circuit breaking' the anxiety: Experiences of group music therapy during supported post-meal time for adults with anorexia nervosa	Qualitative, descriptive phenomenological microanalysis Australia, Adult Eating Disorder Inpatient Program
(Bibb et al., 2019) Reducing Anxiety through Music Therapy at an Outpatient Eating Disorder Recovery Service.	Quantitative, case series Australia Outpatient day program
(Heal & O'Hara, 1993) The music therapy of an anorectic mentally handicapped adult.	Clinical case report UK, Outpatient setting
(Heiderscheit & Madson, 2015) Use of the iso principle as a central method in mood management: A music psychotherapy clinical case study.	Case study, description of data evaluation not included in the study USA, Compulsive Overeating Intensive Outpatient Program (COE-IOP)
(Hilliard, 2001) The Use of Cognitive-Behavioral Music Therapy in the Treatment of Women with Eating Disorders.	Clinical case report Florida, USA, Renfrew Centre of Florida CBMT program implemented in a residential treatment facility
(Lejonclou & Trondalen, 2009) 'I've started to move into my own body': Music therapy with women suffering from eating disorders.	2 clinical case reports Norway Inpatient specialized unit for EDs
(McFerran & Heiderscheit, 2016 A multi-theoretical approach for music therapy in eating disorder treatment.	Clinical case reports Country not specified -probably: Australia/USA Intensive outpatient setting, residential setting
(McFerran et al., 2006) A Retrospective lyrical analysis of songs written by adolescents with anorexia nervosa.	Qualitative content analysis, phenomenological Australia, Melbourne Royal Children's Hospital Intensive outpatient treatment
(Nolan, 1989) Music as a transitional object in the treatment of bulimia.	Clinical case report Philadephia, Pennsylvania, USA Setting not specified

(Robarts, 1994b) Towards autonomy and a sense of self: Music therapy and the individuation process in relation to children and adolescents with early onset anorexia nervosa.	Clinical case report UK Inpatient setting
(Robarts, 2000b) Towards autonomy and a sense of self: Music therapy and the individuation process in relation to children and adolescents with early onset anorexia nervosa.	Clinical case report, analysis based on Poietic Processes in MT UK, Inpatient care
(Sloboda, 1994) Individual music therapy with anorexic and bulimic patients.	Clinical case report UK, London Inpatient setting
(Trondalen & Skårderud, 2007) Playing with affects and the importance of 'affect attunement'.	Case study, phenomenologically inspired procedure for data analysis Norway, Outpatient setting
(Trondalen, 2003b) 'Self-Listening' in Music Therapy with a Young Woman Suffering from Anorexia Nervosa.	Case study, qualitative phenomenologically inspired procedure for data analyses with a focus on significant moments, adapted version of Structural Model for Music Analyses (SMMA) Norway Setting not specified

Table 2. Overview of the origin of MT studies.

Country	**Frequency**
Australia	4
USA	2
UK	4
Norway	3
Germany	1

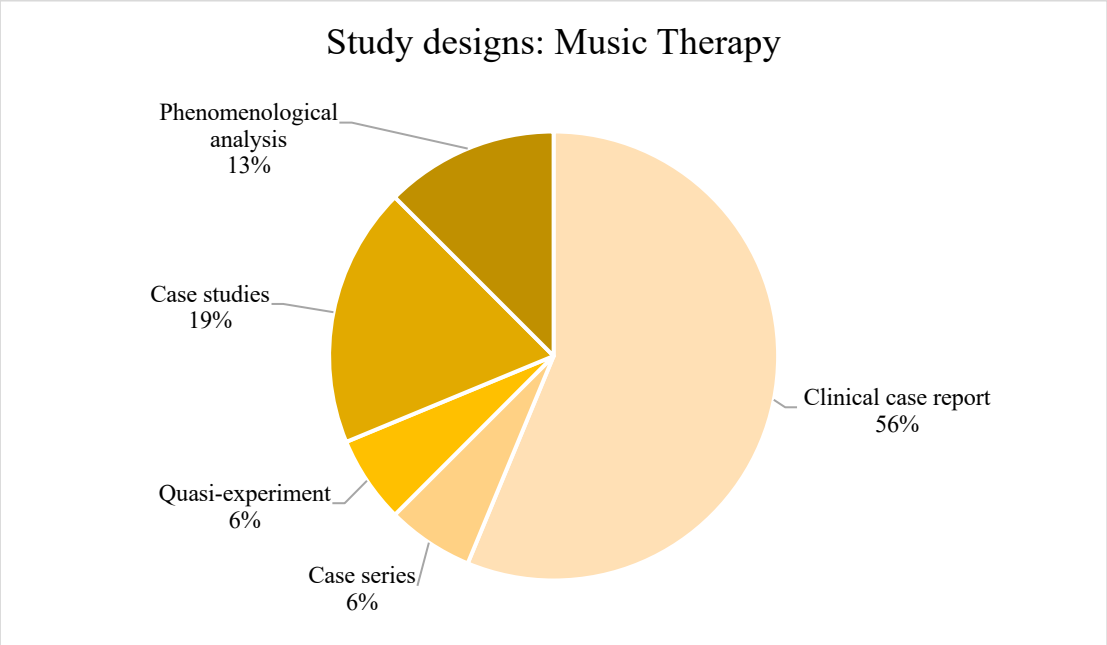
4.1.2 Study Designs and Settings

Within the modality of MT, more than a half (56%) of study designs were classified as clinical case reports (Bauer, 2010; Heal & O'Hara, 1993; Hilliard, 2001; Lejonclou & Trondalen, 2009; McFerran & Heiderscheit, 2016; Nolan, 1989; Robarts, 1994, 2000; Sloboda, 1994). Overall, there were two studies (13%) with qualitative content analysis using a phenomenological approach (Bibb et al., 2016, McFerran et al., 2016). Case studies appeared in 19% (Heiderscheit & Madson, 2015; Trondalen, 2003a; Trondalen & Skårderud, 2007). Both quantitative study

designs, quasi-experiment and case series appeared in 1 study each and were published by the same author and collective (Bibb et al., 2015, 2019). See figure 3.

8 studies were conducted in inpatient settings while 6 studies were reported in outpatient settings. There were two studies with no specified setting (Nolan, 1989; Trondalen, 2003).

Figure 3. Percentages of study designs of MT studies.



4.1.3 Population

The clinical population of studies contain participants with EDs or disordered eating symptoms. The number of participants is clearly described in most of the MT studies. Twelve studies describe a clinical work with one patient in setting of individual sessions (Bauer, 2010; Heal & O'Hara, 1993; Heiderscheit & Madson, 2015; Lejonclou & Trondalen, 2009; Nolan, 1989; Robarts, 1994a, 2000a; Trondalen, 2003a; Trondalen & Skårderud, 2007). Sloboda (1994) described clinical examples of work with four patients separately in one text. These descriptions, as well as many other texts through the whole scoping review, however, provide mostly the therapist's observations and reflection upon the therapeutic process. In their chapter, McFerran & Heiderscheit (2016) also describe four clinical examples. These are two clinical examples of individual therapeutic work with clients and two clinical group examples. 17 participants were present in Bibb et al.'s (2015) study, 10 participants in Bibb et al.'s (2016) study published one year later and 13 participants in the most recent study by Bibb et al. (2019).

The number of participants varied in the study of Hilliard (2001) with a maximum of 10 participants in the group session. Lyrics written by 15 participants were included in McFerran et al.'s (2006) lyrical analysis of songs.

To address gender distribution, the proportion between female and male participants is unbalanced. Since some clinical examples did not specify the clinical population within their paper, there was no gender specification for all participants in the studies. However, of those studies with the specification of gender, there is a clear prevalence of female patients with the following ratio: F:57 M:3. The age of all participants varied from 12 to 58 years old.

Anorexia Nervosa and Bulimia Nervosa were the diagnoses of EDs of most of the patients presented in the texts. Ten studies describe patients with a diagnosis of AN while BN was present in four studies Diagnosis of EDNOS appeared in Heiderscheit & Madson's (2015) study. BED was not present in any of the studies. Various comorbidities were present throughout some texts. There was a patient with Down's syndrome with frequent vomiting after food (Heal & O'Hara, 1993). Major depressive disorder and generalized anxiety disorder were comorbidities of a patient with EDNOS (Heiderscheit & Madson, 2015) and a chronic depression appeared as a comorbidity in female 13 years old patient (Robarts, 1994). There was one patient with suicidal symptomatology (Robarts, 2000).

4.1.4 Methodology of Relevant Studies

It is necessary to understand what tools and methods can be used when conducting research and a good methodological structure in the field of arts-based interventions and EDs. However, there is an evident trend of arts-based studies to reflect upon the therapeutic process from the therapist's perspective without implementing assessment tools. To specify methods of data collection in MT studies, there are 8 studies without specific research methodology (Heal & O'Hara, 1993; Hilliard, 2001; Lejonclou & Trondalen, 2009; McFerran & Heiderscheit, 2016; Nolan, 1989; Robarts, 1994b, 2000a; Sloboda, 1994). These studies contain descriptions based on the therapist's perspective and information mentioned by the patient during the therapeutic process.

Bauer (2010) analysed videotapes of sessions with the patient. Bibb et al. (2016) carried out semi-structured interviews along with Trondalen (2003) who analysed interviews with a focus on significant moments by applying an adapted version of the Structural Model for Music Analyses (SMMA). Retrospective lyrical analyses of songs based on a phenomenological

approach were realized by McFerran et al. (2006). Analysis of recordings with phenomenologically inspired procedure for data analysis was another method of data processing. Further, quantitative studies administrated the Subjective Units of Distress Scale (SUDS) pre and post each intervention to measure post-meal anxiety (Bibb et al., 2015, 2019). Heiderscheit & Madson (2015) used a 5-point Likert-type scale for developing a systematic iso playlist and a 10-point Likert-type scale for rating a client's depression.

4.1.5 Types of Music Therapy and Other Therapeutic Interventions

Various types of MT have been described in studies. Some studies did not specify the type of their MT approach, while others did. Bauer (2010) works with need adapted MT approach. Bibb et al. (2015) specified their approach in MT as humanistic. In their later study, Resource-oriented MT was applied (Bibb et al., 2016). One study mentioned the MT approach based on cognitive behavioural therapy (Hilliard, 2001) and another MT study worked with MT based on psychodynamic theory and Stern's concepts (Lejonclou & Trondalen, 2009). Stern's influence on developmental psychology was also applied in MT with a focus on affect attunement (Trondalen & Skårderud, 2007). Further, four different approaches to MT were described in work with patients with EDs by McFerran & Heiderscheit (2016); psychodynamic approach, humanistic approach, cognitive-behavioural approach and ecological approach.

Other therapeutic interventions depended on the study design and methodology of each paper. In a paper with the control group by Bibb et al. (2015), meal support therapy was applied to patients in the control group. Debriefing with the staff after returning back from an eating event before the MT session was incorporated between eating and MT session in a study focusing on post-meal anxiety (Bibb et al., 2019). Studies reporting clinical cases from residential treatment programs contained various combinations of interventions such as verbal individual psychotherapy, verbal group psychotherapy, meal support and family therapy. Few studies mentioned multidisciplinary teams without the specification of professionals involved.

4.1.6 Characteristics of Music Therapy Interventions

MT sessions with patients with EDs are realized in group or individual settings. 9 out of 16 studies described clinical examples of individual MT settings while 7 studies describe the

clinical experiences of therapeutic groups. The longest therapeutic process of MT with the client was described by Norwegian authors and was 3 years long (Lejonclou & Trondalen, 2009). One session of MT was 45 – 60 minutes long and was realized twice or once per week.

Following interventions are being applied in MT sessions with clients with EDs:

Active methods

- musical improvisation
    - in a group or in individual setting
    - "free-flowing" improvisational music
    - playing with various music instruments, sounds, melodies and recorded music
    - role play (choosing an instrument to represent patient's mother)
- singing
- searching for the inner sound of the body
- musical games

Receptive methods

- Bonny Method of Guided Imagery and Music (BMGIM)
- listening to songs, listening to music at group sessions or while eating
- self-listening technique: improvisational music of the therapist with the client was recorded and used for self-listening
- music-assisted relaxation
- talking about and sharing music with others, choosing and discussing familiar songs together
- lyrics analyses

Compositional methods

- song-writing (in a group or individually)
- music composing
- spontaneous sound pictures
- hello and goodbye songs
- development of personalised playlist (continuum from depression to hopefulness based on iso principle)

Engaging methods of other AsTs modalities

- verbal dialogue, verbal and imaginal self-expression
- body movements through mirroring exercises
- drawing

4.2 Art Therapy

The final set of studies with a focus on AT and EDs contains 23 records (Appendix C). The overview of all studies on the modality of AT is summarized in table 3.

Table 3. Characteristics and summary of included AT studies.

Author, Title	Study design, Country, Setting
(Acharya et al., 1995) What can the art of anorexic patients tell us about their internal world: A case study	Clinical case report UK Inpatient setting
(Bloomgarden, 1997) 'Offerings': A flexible technique for assessment, therapy, and education.	Clinical case report New York, USA Outpatient program
(Chaves, 2011) The creation of art books with adolescents diagnosed with an eating disorder: Effectiveness, self-esteem, and related factors	Mixed design USA, Colorado Eating Disorders Unit (EDU) at The Children's Hospital in Aurora, Colorado
(Estep M, 1995) To soothe oneself: Art therapy with a woman recovering from incest.	Clinical case report USA, Ohio Private practice
(Hunter, 2016b) Art therapy and eating disorders. A chapter in a book	3 Clinical case reports California, USA Setting: not specified
(Jeong & Kim, 2006) Art therapy: Another tool for the treatment of anorexia nervosa.	Clinical case report South Korea Outpatient treatment
(Johnson & Parkinson, 1999) There's no point raging on your own: Using art therapy in groups for people with eating disorders.	Clinical group report UK Setting not specified
(Ki, 2011) Exploring the Experiences of Participants in Short-term Art-Based Support Groups for Adults Living with Eating Disorders	Qualitative study, phenomenological Canada, Eating disorder support centre Support group in non-clinical setting
(Levens, 1994b) The use of guided fantasy in art therapy with survivors of sexual abuse.	Clinical case report of 1 session of a therapeutic group UK, Eating Disorders Unit London teaching hospital
(Liebmann, 2004) *Art therapy for groups : A handbook of themes and exercises*.	Clinical group report UK Residential unit for young women with long-term chronic EDs

(Lock et al., 2018) Feasibility Study Combining Art Therapy or Cognitive Remediation Therapy with Family-based Treatment for Adolescent Anorexia Nervosa.	RCT (feasibility study) California, USA Setting not specified
(Luzzatto, 1994) Art therapy and anorexia: The mental double trap of the anorexic patient. The use of art therapy to facilitate psychic change	Clinical case report UK, London NHS
(Matto, 1997) An integrative approach to the treatment of women with eating disorders	2 Clinical case reports Maryland, USA Setting not specified
(Misluk-Gervase, 2020a) The Role of Art Therapy in Eating Disorder Advocacy	Case studies USA International Association of Eating Disorder Professionals - *Imagine Me Beyond What You See* art competition
(Misluk-Gervase, 2020b) Art therapy and the malnourished brain: The development of the nourishment framework	Clinical case report Indiana, USA Setting not specified
(Rabin, 2003) *Art therapy and eating disorders: The self as significant form*.	Case studies USA Setting not specified
Rust, 1992 Art therapy in the treatment of women with eating disorders	Clinical case report UK, London Private setting
(Rust, 1994) Bringing 'the man' into the room: Art therapy groupwork with women with compulsive eating problems.	Clinical group reports UK, London Women's Therapy Centre
(Schaverien, 1994) The transactional object: Art psychotherapy in the treatment of anorexia.	Clinical case report UK Inpatient treatment
(Steinbauer et al., 1999) Irene, a case study of a bulimia nervosa patient: The therapeutic process of integrative painting therapy.	Case study Austria University Clinic of Psychiatry, Graz Inpatient and outpatient treatment
(Thaler et al., 2017b) An adjunctive, museum-based art therapy experience in the treatment of women with severe eating disorders.	Quasi-experiment (without control group) Canada, Montreal Museum of Fine Arts (MMFA) Douglas University Institute's Eating Disorders Day Program
(Wolf et al., 1986) Art therapy's role in treatment of anorexia nervosa.	Clinical case report USA, Vermont Inpatient setting, psychiatric unit

(Wood, 2000) Making a mark: An exploration of an art therapy group for clients with eating disorders.	Clinical group reports UK Outpatient and inpatient setting

4.2.1 Year and Country

The oldest study related to AT and EDs was published in 1986 (Wolf et al., 1986). Eleven more studies were published before the year 2000 and ten studies were published after the year 2000. The most recent relevant studies identified through search were published in 2020 by Misluk-Gervase (Misluk-Gervase, 2020b, 2020b).

There is a similar ratio of studies published in the USA and UK, with 10 studies from the USA and 9 studies published in the UK. There are two studies with origin in Canada, one study from Austria and one study from South Korea. See table 4.

Table 4. Overview of the origin of AT studies.

Country	**Frequency**
USA	10
UK	9
Canada	2
South Korea	1
Austria	1

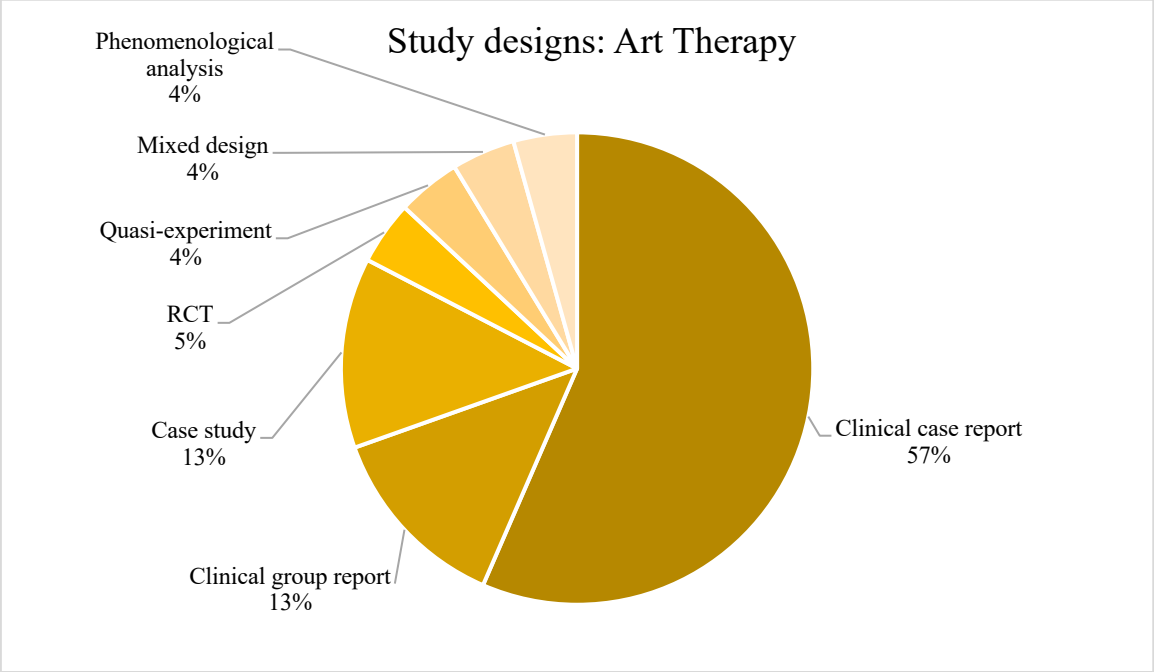
4.2.2 Study Designs and Settings

Seven types of studies were identified in the modality of AT. 57% of studies have a study design of clinical case reports. Clinical group report was present in 13% of studies, which was the same percentage as the frequency for case studies. There was one feasibility study with a randomized controlled trial (RCT) comparing the feasibility of a combination of AT or cognitive remediation therapy with family-based treatment in the treatment of adolescents with AN (Lock et al., 2018). Further, the mixed design was present in Chaves' (2011) study, where both qualitative and quantitative data were measured. Phenomenological analysis was conducted by Ki (2011) in the qualitative study of the lived experience. There was one quasi-

experiment without a control group that took place at the Montreal Museum of Fine Arts, Canada (Thaler et al., 2017a).

It was possible to identify eight studies with an outpatient setting as well as eight studies with an inpatient setting. There was no specific information regarding the setting in the remaining six studies with AT modality.

Figure 4. Percentages of study designs of AT studies.



4.2.3 Population

Studies with one patient as well as a group of patients appeared in AT modality. Clinical case examples of therapeutic work with 1 patient were described in a total of 12 studies. In Thaler et al. ‘s (2017) quasi-experiment data of a sample of 78 participants were analysed. Few studies did not specify the number of participants but referred to a group without specification (Johnson & Parkinson, 1999; Levens, 1994; Liebmann, 2004). The age of participants varied between 12 and 60 years old. 96% of patients described within studies were female, while male participants were presented only in 4% of studies (F: 126, M: 5). However, few studies did not specify gender information in their texts.

The diagnosis of AN, BN, EDNOS and ARFID appeared in AT studies. Participants in 14 studies were diagnosed with AN. Further, diagnosis of BN appeared in 9 studies. 19 patients

with EDNOS took part in Ther et al.'s (2017) quasi-experiment and 1 patient in the same study participated with a diagnosis of ARFID. Diagnosis of EDNOS was also present in Chave's (2011) paper. Specification of participants' diagnosis in a chapter written by Liebmann (2004) is limited to long-term chronic EDs.

There are various comorbidities present in participants of AT studies. 28 years old female with BN was diagnosed with PTSD, a childhood victim of severe sexual abuse and self-mutilation behaviour (Estep, 1995). In Levens's (1994) therapeutic group, all patients with EDs were also victims of sexual abuse. Generalized anxiety disorder was present in one patient with AN (Misluk-Gervase, 2020b). Depression along with suicidal tendencies was a comorbid diagnosis of another female patient with AN in two different studies (Rabin, 2003; Wolf et al., 1986). Self-harm tendencies and substance misuse appeared as comorbid diagnoses in a group of patients (Wood, 2000).

4.2.4 Methodology of Relevant Studies

The methodological framework of 16 out of 23 studies did not apply any specific method of data collection. Authors of these studies described their clinical experiences or examples of clinical cases however did apply any measurement. In the remaining 7 studies, various questionnaires and scales were applied. Body mass index (BMI) was assessed in two studies (Acharya et al., 1995; Lock et al., 2018), Body image self-rating along with discussion over pictures with a psychiatrist was present in Acharya et al. (1995). In Chaves' mixed-method study design, methods for quantitative and qualitative data collection were applied. Rosenberg Self-Esteem Scale (RSE) Hartz Art Therapy Self-Esteem Questionnaire (HARTZ AT-SEQ), Visual Analogue Scales (VAS) for depression, anxiety, anger, and shame, Subjective Units of Distress (SUDS) were used for the data collection of quantitative data and interviews with thematic content analysis. VAS was also administrated in quasi-experiment along with Profil of mood states (POMS) and satisfaction scale. Ki (2011) carried out individual, semi-structured, in-person or phone interviews (35-50 mins long) and later conducted a phenomenological analysis of topics. A number of psychodiagnostic measures were conducted in the RCT study, namely BAI - Beck Anxiety Inventory, BDI - Beck Depression Inventory, BMI – Body Mass Index, CY-BOCS - Children's Yale-Brown Obsessive-Compulsive Scale, EDE -Eating Disorder Examination, HRQ - Helping Relationship Questionnaire, K-SADS-PL - Kiddie-Sads-Present and Lifetime Version, RCFT - Rey-Osterrieth Complex Figure, TSPE - Therapy Suitability and Patient Expectancy, WASI - Wechsler Abbreviated Scale of

Intelligence, WCST - Wisconsin Card Sort Task and YBC – ED - Yale-Brown-Cornell Eating Disorder Scale (Lock et al., 2018). Tennessee Self Concept Scale (TSCS) and Self Report Form Eating Questionnaire were administrated to two patients by Rabin (2003). Further, Beck Depression Inventory and Questionnaire on eating habits by Pudel were administrated in one study (Steinbauer et al., 1999).

4.2.5 Types of Art Therapy and Other Therapeutic Interventions

The analytic AT approach was present in two studies (Johnson & Parkinson, 1999; Rust, 1994) as well as the integrative AT approach (Matto, 1997; Steinbauer et al., 1999). Bloomgarden (1997) was utilizing a technique he has created called offerings which could be classified as a modification of Sandplay therapy. Instead of the "art therapy" label for the therapeutic approach, there was a study with art-based support groups (Ki, 2011). The approach of Misluk-Gervase (2020b) was based on the Nourishment Framework which was an author's treatment approach and on Expressive Therapies Continuum. Schaverien (1994) applied AT model considering the picture as a transactional object.

Various types of other therapeutic interventions were applied. Incorporating AT interventions among other interventions within a multidisciplinary team in a clinical setting is not rare. Verbal psychotherapy sessions or family therapy are commonly used along with AT interventions, often held in the CBT framework.

4.2.6 Characteristics of Art Therapy Interventions

Both individual and group setting was present in AT studies. Among other studies, the longest period of time the client received individual art therapy sessions was 2 years (Misluk-Gervas, 2020). 2 months was the shortest interval of intervention (Chaves, 2011). It is important to note, that 9 studies did not describe the length of treatment of the described clinical case. One or two sessions per week are the frequency of AT sessions. In selected studies, one AT session lasts from 30 to 90 minutes. Wood (2000) started to work with her therapeutic group with one-hour-long sessions, however, she had to prolong them later by 90 minutes as the time for creation and reflection was not enough.

Following interventions are being applied in AT sessions with clients with EDs:

- free expression through art, artmaking
- drawing, painting
- painting self-portrait
- guided fantasy followed by image making
- blind drawing
- body contour drawing
- creation of collaborative art piece
- activities with clay figures (arranging them with objects, creating configuration with figures), clay modelling (kinetic family clay, sculpture)
- using imagery, metaphors and symbolism
- therapeutic art book making
- affirmation cards
- mannequin as the foundation of the art making
- collage making, mandala making, origami
- creating symbols
- self-box, sand worlds
- chromatic family line drawing
- experimenting with art materials
- passing images round for everyone to contribute

Engaging methods of other AsTs modalities

- reflection upon a poem
- mirror viewing, face mirror viewing

Materials such as watercolour, colour pencils, oil pastels, and cray-pas are frequently used. Various techniques are explored during AT sessions such as wet on wet making or squirting paint into thick paper.

4.3 Dance/Movement therapy

A total of 7 records with D/MT interventions were identified as relevant based on inclusion and exclusion criteria (see Appendix D). An overview of all studies with a focus on D/MT modality can be seen in Table 5.

Table 5. Characteristics and summary of included D/MT studies.

Author, year	**Study design, country and setting**
(Feldman, 2017) Gestalt and dance movement psychotherapy in adults with eating disorders: Moving towards integration through practice and research.	Clinical group report UK Eating disorder clinic in a private hospital
(Kleinman, 2015) *Becoming Whole Again: Dance/Movement Therapy for Individuals with Eating Disorders*. The Art and Science of Dance/Movement Therapy	Clinical case reports USA Outpatient clinic
(Krueger & Schofield, 1986) Dance/movement therapy of eating disordered patients: A model	Clinical case report USA, Texas In-patient and out-patient - private residential psychiatric hospital
(Oppikofer, 2012) The story of a wall, rose petals and footprints in the sand: A case study.	Clinical case report Switzerland Setting not specified
(Padrão & Coimbra, 2011) The Anorectic Dance: Towards a New Understanding of Inner-Experience Through Psychotherapeutic Movement	Clinical group report Portugal Inpatient setting
(Rice et al., 1989) Disturbed body image in anorexia nervosa: Dance/movement therapy interventions.	2 Clinical case report Country not specified Setting not specified
(Savidaki et al., 2020) Re-inhabiting one's body: A pilot study on the effects of dance movement therapy on body image and alexithymia in eating disorders	Mixed design using both qualitative and quantitative data, with control group Spain. Private day clinic

4.3.1 Year and Country

Seven studies included in the final data set were published between the years 1986 – 2020. The oldest study by Krueger & Schofield (1986) from the USA describes a model of D/MT that can be used in the treatment of EDs. This was more of a theoretical paper presenting a model and few insights emerging from the practice. Three years later, Rice et al. (1989) published a chapter regarding D/MT interventions for people with AN. There is twenty-two years-long break until Padrão & Coimbra published a study in 2011, introducing their project of body-oriented psychotherapeutic interventions with females diagnosed with AN. This project took place in Portugal. Another four studies emerged between 2012 and 2020 in the UK, USA, Spain

and Switzerland (Feldman, 2017; Kleinman, 2015; Oppikofer, 2012; Savidaki et al., 2020). The frequency of study origins is displayed in Table 6.

Table 6. Overview of the origin of D/MT studies.

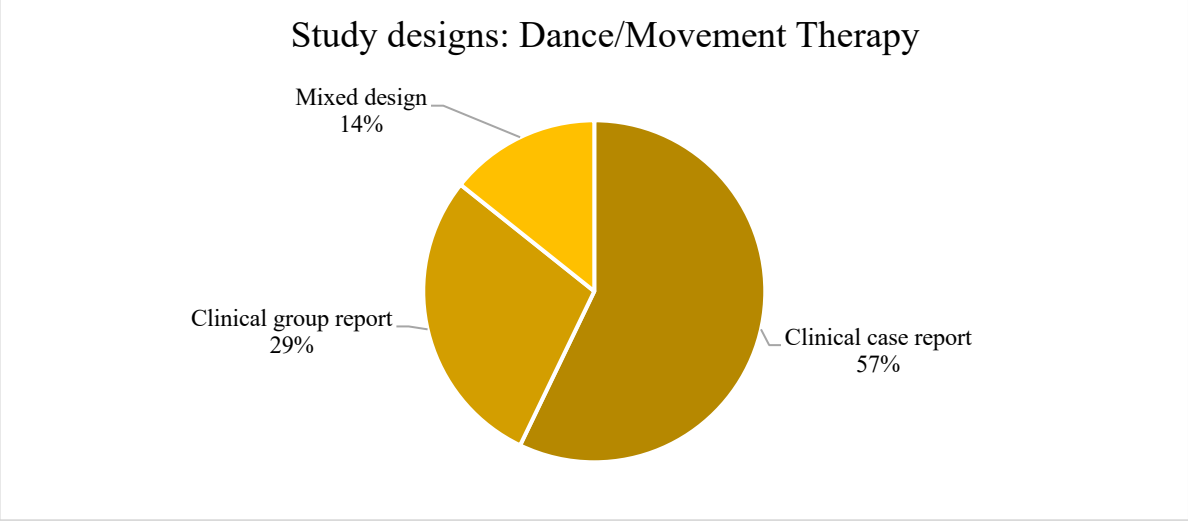
Country	**Frequency**
USA	2
Spain	1
UK	1
Portugal	1
Switzerland	1
Not specified	1

4.3.2 Study Design and Setting

As in previous modalities, more than half (57%) of studies were classified as clinical case reports. Two studies present clinical group reports (Feldman, 2017; Padrão & Coimbra, 2011). Savidaki et al. (2020) applied mixed methods in their study, using both qualitative and quantitative approaches for data collection. The rate of study designs is visualized in Figure 5.

Setting of private clinics and hospitals was present in four studies (Feldman, 2017; Kleinman, 2015; Krueger & Schofield, 1986; Savidaki et al., 2020). Inpatient setting was further present in Padrão & Coimbra's (2011) study and the two remaining studies did not provide setting details.

Figure 5. Percentages of study designs of D/MT studies.



4.3.3 Population

Only two papers on D/MT interventions worked in individual sessions with 1 patient (Oppikofer, 2012; Rice et al., 1989). 5 studies report working with a group of patients with ED diagnoses. Among D/MT studies, no male participant was reported. The age of participants ranged and varied in each group and study. The youngest participant was 12 years old and the oldest participant was 56 years old (Feldman, 2017; Padrão & Coimbra, 2011).

Diagnosis of AN, BN, and EDNOS were present in participants of studies, while two studies did not specify the type of EDs within the group of patients however both of these studies were conducted in EDs treatment facilities (Feldman, 2017; Krueger & Schofield, 1986). No comorbidities were present in patients receiving D/MT interventions in their treatment.

4.3.4 Methodology of Relevant Studies

Savidaki et al. (2020) administrated the Multidimensional Body Self Relations Questionnaire (MBSRQ) and the Toronto Alexithymia Scale (TAS-20) at the beginning and at the end of the intervention. Reflective diaries as a part of qualitative data were analysed. The therapist's non-structured movement observation and patients' verbalisations about their experience at the end of the session were part of the assessment procedure of the therapeutic process in one study (Padrão & Coimbra, 2011). Further, semi-structured interviews were applied and an outcome was determined by the consensual judgment of three professionals (2 psychiatrists, and 1 clinical psychologist). Thematic analysis of the therapist's journal was an approach in Feldman's (2017) work. There was no specific research methodology in the remaining studies.

4.3.5 Types of Dance/Movement Therapy and Other Therapeutic Interventions

Various approaches and models of D/MT were applied within studies. Psychodynamically oriented approach was applied in the American study (Krueger & Schofield, 1986), and Chace's approach in Savidaki et al. (2020) along with guided imagery. The concept of an Authentic Movement was presented in Oppikofer (2012). Other therapeutic interventions were either not specified or of a multidisciplinary nature. These interventions contain daily meetings with psychiatrists (Krueger & Schofield, 1986), verbal psychotherapy (Rice et al., 1989) and

multidisciplinary treatment approaches containing nutritional, medical, psychological, and experiential therapies (Feldman, 2017).

4.3.6 Characteristics of Dance/Movement Therapy Interventions

D/MT interventions were applied in short-term and long-term treatment, ranging between 3 - 30 sessions. The length of treatment was not specified in all studies, however, studies with specification reported a duration between 2 to 9 months. Most of the sessions took place once a week however in one study, interventions in the therapeutic group were applied twice each week (Krueger & Schofield, 1986).

Interventions were applied in individual and group settings, with 4 studies describing group sessions (Feldman, 2017; Krueger & Schofield, 1986; Padrão & Coimbra, 2011; Savidaki et al., 2020) and 3 studies working with patients individually (Kleinman, 2015; Oppikofer, 2012; Rice et al., 1989).

There was a description of all parts of the session in a few studies. Savidaki et al. (2020) described 6 parts of the session structure: Check-in (10 mins), Warm-up (10 mins), Guided imagery (20 mins), Exploration in movement (30 mins), Writing (reflective diaries) (10 mins) and Check out (10 mins). Similarly, the structure of the session was described in another study with small variations: Warm-up, Body awareness techniques, Guided or free thematic movement/expressive dance, Warm-down, and Closure focused on verbalization and reflection about the movement experiences (Padrão & Coimbra, 2011). Lastly, the structure of sessions was mentioned also by Feldman (2017) as follows: Verbal check-in, Warm-up, Theme Development and Verbal check-out.

Rice et al. (1989) work with a 3 stage structure incorporating gradually three questions: “What Body? Who owns this body? What can my body do?”.

Following interventions are being applied in D/MT sessions with clients with EDs:

- stretching and relaxation exercises, deep muscle relaxation,
- thematic and free movement when listening to different music styles,
- breathing exercises,
- guided imagery,
- centering exercises,

- physical mirroring,
- reflective diaries,
- exploring movement interactions in pairs,
- Chacian circle,
- moving with objects (balls, elastic bands),
- self touch, sensing the inner world, touch exercises,
- body map, rocking,
- proximity exercises,
- safe space/bubble,
- dressing social/ cultural influences (using images and metaphors)

Engaging methods of other AsTs modalities

- drawing (e. g.: in the end of the session to express patient's experience of the session)

4.4 Dramatherapy/Psychodrama

The final set of 10 studies was identified with the dramatherapeutic or psychodramatic intervention (see Appendix E). A summary of characteristics is presented in Table 7. The upper part of the table refers to studies related to psychodrama, while the second part of the table (with yellow background) presents studies with a focus on dramatherapy interventions. There are six studies using interventions from dramatherapy and four studies with interventions based on the psychodrama approach.

4.4.1 Year and Country

The year of publication of studies focused on dramatherapy or psychodrama ranges between the years 1989 to 2012. More specifically, studies with specific interventions from psychodrama were published between 1989 and 2012. Studies applying dramatherapy were published between 1994 and 2013. The latest studies by Bailey (2012) and Pellicciari et al. (2013) were published ten and nine years ago.

The majority of studies were conducted in Europe, specifically in UK, Italy and Netherlands. There are two studies from the USA and two more records with no specified country of origin (Jay, 1994; Young, 1994). Both dramatherapy and psychodrama were applied in research from the United Kingdom, while the United States of America conducted

studies using only the psychodrama framework. An overview of the frequency of country

Author, year	Study design, country and setting
(Bailey, 2012) The healing experiences of women: Psychodrama and eating disorders	Qualitative study, based on grounded theory/lived experience methodology USA
(Callahan, 1989) Psychodrama and the treatment of bulimia.	Clinical case reports USA, New York Outpatient treatment program
(Jay, 1994) The use of psychodrama in the field of bulimia	Clinical case reports Country not specified Outpatient setting
(Jefferies, 2000) Eating disorders: A psychodrama approach	Clinical case reports UK
(Levens, 1994a) Psycho-social factors in eating disorders explored through psychodrama and art therapy	Clinical case report UK Atkinson Morley's Hospital, London
(Meillo, 1991) Issues of milieu therapy: Psychodrama as a contribution to the treatment of a case of anorexia nervosa.	Clinical case report Netherlands Psychotherapeutic community for disturbed adolescents
(Jennings, 1994) A dramatherapy case history: An anorectic response to an incomplete 'rite-of-passage.'	Clinical case report UK Infertility clinic Outpatient setting
(Pellicciari et al., 2013) Drama Therapy and Eating Disorders: A Historical Perspective and an Overview of a Bolognese Project for Adolescents.	Case series Italy Bologna Eating Disorder Centre
(Wurr & Pope-Carter, 1998) The journey of a group: Dramatherapy for adolescents with eating disorders.	Case series UK Child and Adolescent Service, Bradford
(Young, 1994) Dramatherapy in short-term groupwork with women with bulimia	Clinical group reports Country not specified Setting not specified

origin is presented in Table 8.

Table 7. Characteristics and summary of included Dramatherapy/Psychodrama studies.

Table 8. Overview of the origin of Dramatherapy/Psychodrama studies.

Country	Frequency
USA	2
UK	4
Italy	1

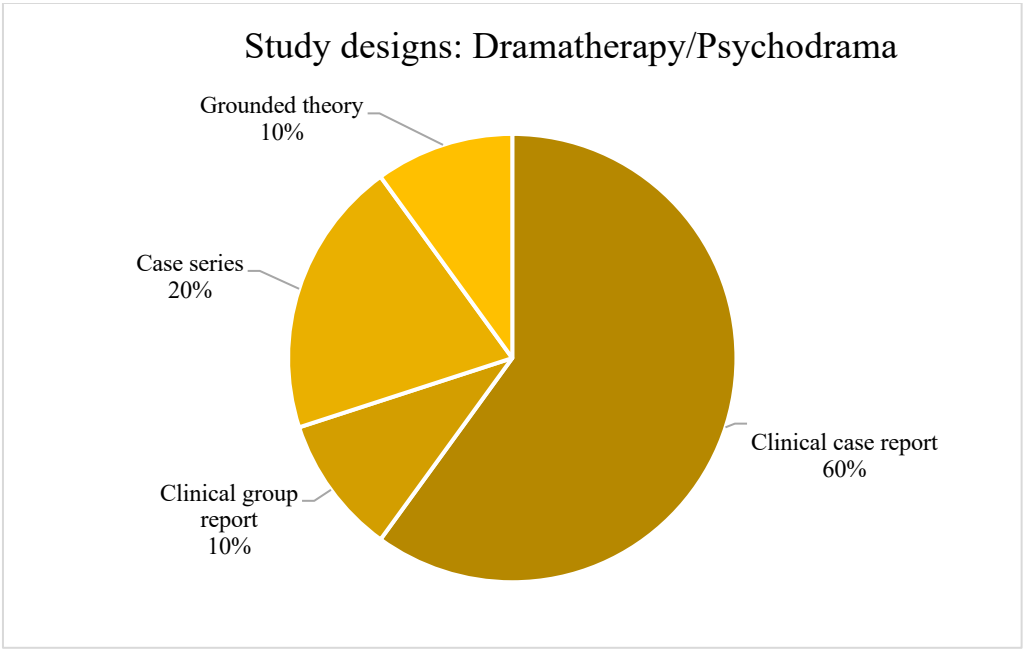
Netherlands	1
Not specified	2

4.4.2 Study Designs and Settings

Clinical case reports were identified in 60% of studies. Pellicciari et al.'s (2013) study and Wur & Pope-Carter's (1998) were classified as case series. There was one paper presenting a clinical group report (Young, 1994). Bailey (2012) conducted a qualitative study based on grounded theory and lived experience methodology. Figure 6 represents the ratio of study designs in dramatherapy and psychodrama modality.

The inpatient setting was present in a number of papers. Meillo (1991) presents data from the psychotherapeutic community for disturbed adolescents, similarly to Wurr & Pope-Carter (1998) who describe dramatherapy in a group in Child and Adolescent Service in Bradford. Italian study was realized in Bologna Eating Disorder Center (Pellicciari et al., 2013). The outpatient setting was identified in three studies (Callahan, 1989; Jay, 1994; Jennings, 1994).

Figure 6. Percentages of study designs of Dramatherapy/Psychodrama studies.



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4.4.3 Population

Similarly to AT, MT and D/MT, studies with psychodrama and dramatherapy interventions were applied with one patient or in a group. However, in the modality of dramatherapy/psychodrama, only one study describes the use of dramatherapy in the setting of individual sessions with one patient (Jennings, 1994). There were two male participants and 48 female participants. Diagnoses of AN, BN, and EDNOS were found within studies. In Bailey's (2012) study, two patients were diagnosed with a combination of BN and EDNOS. The youngest participant in sessions with dramatherapy and psychodrama principles was 14 years old (Pellicciari et al., 2013).

Drug abuse was comorbidity in one patient (Callahan, 1989) and a previous suicide attempt was recorded in anamnesis of one patient (Meillo, 1991). Further, substance misuse, self-harming behaviour and two cases with a history of abuse were comorbidities present in a group of patients in another study (Wurr & Pope-Carter, 1998). 3 cases of childhood sexual abuse were described in a clinical group report by Young (1994).

4.4.4 Methodology of Relevant Studies

Specific methods for data collection were scarce in dramatherapy/psychodrama studies. Toronto Alexithymia Scale (TAS-20) and SAFA test were administrated in Pellicciari et al. 's study (2013). Bailey (2012) conducted interviews on the procedure of open coding. One study applied a modified content analysis approach with one year later follow-up administrating questionnaires, analysis of their scale of task and level of socialization. However, analysed data were based on the author's reflection of the therapeutic meetings and were not collected through a structured methodological method.

4.4.5 Types of Dramatherapy/Psychodrama and Other Therapeutic Interventions

There was a little specification about dramatherapy types used, however, Young (1994) specified her dramatherapeutic approach as embodied projection. In the paper of Pellicciari et al. (2013) dramatherapy with a combination of psychodrama principles was applied.

A complex treatment program was a part of treatment in one text (Levens, 1994). Further, interventions of dramatherapy and psychodrama were applied simultaneously with individual/group psychotherapy, family therapy, support groups, socio therapy, medical and nutritional support or occupational therapy sessions in various combinations.

4.4.6 Characteristics of Dramatherapy/Psychodrama Interventions

Dramatherapy and psychodrama interventions are applied mostly in group settings. There was only one study utilizing interventions of dramatherapy in an individual setting (Jennings, 1994). This is also one of the main aspects distinguishing dramatherapy and psychodrama from other AsTs.

The itinerary of group sessions of dramatherapy was described by Pellicciari et al. (2013). Their sessions began with a warm-up which took around 30 minutes. Choice of a character was the next step in the session, this contained reflection upon similarities to the patient and chosen character. Further, the chosen character was developed through various exercises and the last part contained a performance, possibly with an audience.

Following interventions are being applied in dramatherapy/psychodrama sessions with clients with EDs:

- techniques working with roles
    - role play, improvisation role play
    - role-reversal
    - group roles
- creation of theatre of the past/present/future
    - use of pictures, models, stories
    - patient in the role of director or performer
- use of guided fantasy to develop the journey metaphor
- voice projection exercises
- breathing exercises
- mirroring
- doubling
- building obstacles (using materials in the room) and getting over it
- bubble exercise
- sculpture exercise
    - the group as a human body
    - small and large-scale sculpture
- clock exercise

- the magic shop – imagery buying and selling personal qualities
- Theatre of the Oppressed exercises
- empty chairs technique

Engaging methods of other AsTs modalities

- writing based exercises
- drawing of patient's native village and her home
- building native village with variety of toys

4.5 Multimodal Approaches

The last modality of AsTs is labelled as "multimodal approaches". The number of 6 studies was included in the final data set of multimodal studies (see table 9, Appendix F). In these studies, there was the application of more types of arts-based interventions or an arts-based intervention which does not specifically belong only to one modality.

Table 9. Characteristics and summary of included studies with multimodal approach.

Author, year	**Study design, country and setting**
(Diamond-Raab & Orrell-Valente, 2002) Art therapy, psychodrama, and verbal therapy. An integrative model of group therapy in the treatment of adolescents with anorexia nervosa and bulimia nervosa.	2 Clinical case reports USA
(Franks & Fraenkel, 1991) Fairy tales and dance/movement therapy: Catalysts of change for eating-disordered individuals.	2 Clinical case reports USA
(Hinz & Ragsdell, 1990) Using masks and video in group psychotherapy with bulimics.	Clinical group report USA University counselling centre
(Karvonen, 2015) My body moves in music therapy: Body movements and their role in music therapy in the treatment of depression and an eating disorder: A case study.	Clinical case report Finland Clinical setting
(Naitove, 1986) 'Life's but a walking shadow'; treating anorexia nervosa and bulimia.	Clinical case report USA
(Porter & Waisberg, 1992) Overcoming destructive societal values in the treatment of anorexia nervosa: An intensive day treatment model.	Quasi-experiment (without control group) Canada

4.5.1 Year and Country

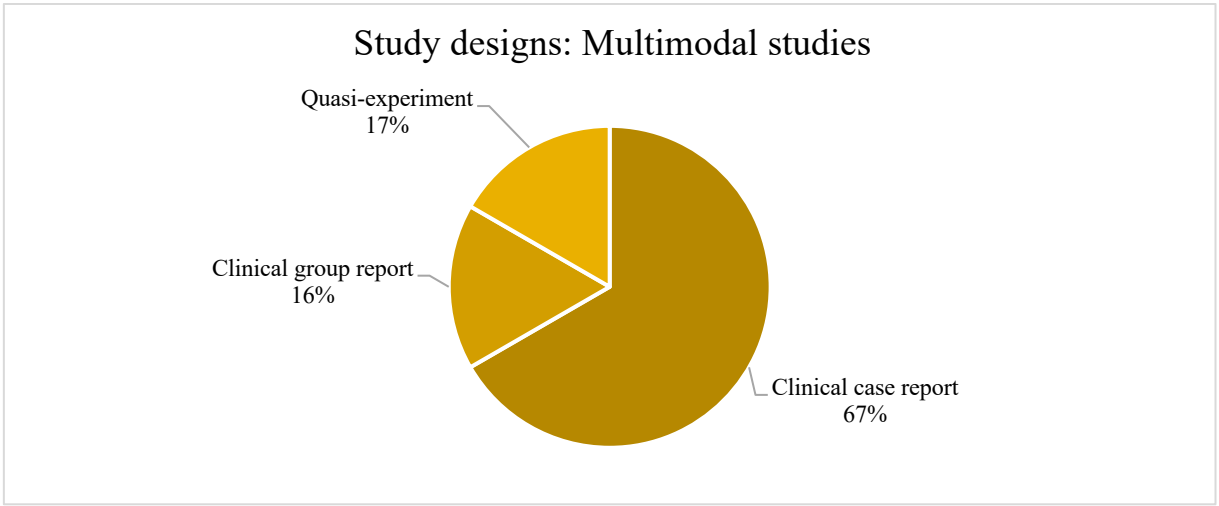
Six studies classified among the multimodal approach category were published in the 1986 – 2015 intervals. Naitove (1986) is the author of the oldest study within this chapter focused on the treatment of AN and BN using arts-based interventions which included work with movement, poetry and elements of dramatherapy. Hinz & Ragsdell (1990) present their work with a group of patients with BN, using masks and video. One year later, a study using D/MT and fairy tales was published followed by the publication of an intensive day treatment model (Franks & Fraenkel, 1991; Porter & Waisberg, 1992). The connection between AT, psychodrama and verbal therapy was investigated by Diamond-Raab & Orrell Valente in 2002. There is a thirteen years gap and the last study engaging both MT and body movement was published in 2015 by Karvonen.

4 out of 6 studies have their origin in the USA, one in Canada and one in Finland.

4.5.2 Study Designs and Settings

Most of the studies using combinations of arts-based interventions were classified as clinical case reports (67%). Paper describing an intensive day treatment model by Porter and Waisberg (1992) presents a quasi-experiment without a control group. The distribution of frequency of study design is visualized in Figure 7.

Figure 7. Percentages of study designs of studies with multimodal approach.



4.5.3 Population

Overall, the data set of multimodal arts-based interventions contained 24 participants, 23 females and 1 male. Age ranged from 16 to 30 years old. There was a diagnosis of AN present in 5 studies and a diagnosis of BN present in 3 studies. There was no study focusing on the treatment of patients with BED or EDNOS. Patients with comorbidities were present in three studies. Depressive symptoms ranging from depressed mood to severe depression were comorbidities of patients in three studies (Diamond-Raab & Orrell-Valente, 2002; Karvonen, 2015; Naitove, 1986). Further, self-injurious behaviour, suicidal ideation and anxiety disorder appeared in the same three studies.

4.5.4 Methodology of Relevant Studies

Porter & Waisberg (1992) measured symptoms of ED with 8 scales of the Eating Disorder Inventory, personality traits with two clinical scales of the Eysenck Personality Inventory and Rotter's dimensions of interval versus external locus of control using the Self-Control Scale of the Reid-Ware and Multidimensional Internal-External Scale. In another study, video recordings were analysed by the therapist (Karvonen, 2015). The remaining studies did not apply any measurement methods.

4.5.5 Type of Arts Therapies in Multimodal Approaches and Other Therapeutic Interventions

Studies classified as using multimodal approaches of AsTs incorporated all modalities of AsTs. Various arts-based interventions were used from AT, MT, D/MT, dramatherapy and psychodrama in all papers. Franks & Fraenkel (1991) applied techniques based on fairy tales and the D/MT approach. Naitove (1986) employed movement, poetry, drama and plastic art when working through the therapeutic process with the patient.

Other therapeutic interventions consisted of family therapy, journaling (Diamond-Raab & Orrell-Valente, 2002), or interventions applied within a multidisciplinary team (Naitove, 1986).

4.5.6 Characteristics of Interventions of Arts Therapies in Multimodal Approaches

Combinations of arts-based interventions were applied in individual or group settings. The length of the session ranged between 45 minutes and 105 minutes.
Hinz & Ragsdell (1990) were using the process of mask creation which consisted of three phases and less than a half of patients completed all three of them. In the first phase, participants created masks. The second phase included reading a series of questions into the video camera while holding the mask in front of the face. Finally, members of the group responded to the videotaped presentation of themselves.

Following interventions are being applied in sessions of AsTs in applying a multimodal approach with clients with EDs:

- elements of dance and movement related to affect
- body-based interventions
    - body movements, self-exploration techniques
    - kinesthetic sensing and witnessing
    - experimenting with breath, diaphragmatic breathing
    - shape and body boundary while working with fairy tale story
- guided visualizations
- painting and drawing
    - painting a picture based on the fairy tale
    - writing down dialogue between painted characters
    - drawing self-portrait, family painting
    - complete life-size outline drawing of poses patient assumed to reflect a current mood
    - Gesture drawings, Kinetic Family Drawing, Idealized Kinetic Family Drawing
    - drawing on various topics: “What I want to be doing ten years from now”
    - mandalas
- psychodrama
- drama improvisation based on Transactional Analysis
- collage making

- mirroring
- journal writing
- exercises to support each other's weight
- hunger journeys

4.6 Therapeutic Outcomes of Arts Therapies in Treatment of Eating Disorders

In the process of categorization, therapeutic outcomes related to AsTs have been sorted into the following thematic categories: improvement or reduction of eating disorders symptomatology, outcomes related to emotions, gaining insights, understanding and new perspective, outcomes related to self, learning new skills, reconnection between body and mind.

4.6.1 Improvement or Reduction of Eating Disorders Symptomatology

The desirable outcome when treating EDs is probably mostly connected with improvement or overall disappearance of EDs symptomatology. After analyses of AsTs studies related to EDs treatment, reduction, improvement or disappearance of symptoms related to disordered eating have been present in a number of studies. Some studies assessed this aspect with psychodiagnostic tools, others reported outcomes emerging from the treatment.

In the **modality of AT**, two studies reported weight stabilization. The patient regained weight and her preoccupation with food was reduced at the end of the treatment (Jeong & Kim, 2006). Improvements in patients' attitudes about food and weight were reported by Rabin (2003) who described two clinical examples in her work. The second patient reported weight stabilization and maintenance of regular eating patterns 9 months after the end of art therapy. In another AT study, a questionnaire on eating habits revealed a reduction or disappearance of symptoms (Steinbauer et al., 1999). In this case, symptoms of vomiting were replaced by drawing and painting as a method of successful confrontation with the patient's feelings. In Luzzatto's study (1994), a positive outcome has been confirmed by a follow-up through the patient's GP three years after termination of therapy.

Following results have been reported in the **modality of MT**. At the end of the MT sessions, only occasional somatization with weight stabilization was part of the outcome in a study (Heal & O'Hara, 1993). Another patient was able to maintain a safe weight independently (Robarts, 1994b). Sloboda (1994) also reported an increase in patients' weight with another positive outcome, regaining of menstruation. Another study reported that episodes of binge eating became rare for the patient (Bauer, 2010). Reduced ED symptoms after MT sessions were detected in the Norwegian study (Trondalen & Skårderud, 2007). The therapeutic group taking part in MT sessions composed a song and was proud about it. Through songwriting,

patients felt good about being able to focus on accepting their body rather than rejecting it (McFerran & Heiderscheit, 2016).

In **D/MT** outcomes, significant improvement was detected on scales of Body Areas Satisfaction (effect size: 0.95) and Appearance Evaluation (effect size: 1.10). Further, significantly decreased values were identified in patients on scales of Appearance Orientation (effect size: 1.30) and Overweight Preoccupation (effect size: 0.75) (Savidaki et al., 2020).
Authors of one study with the application of **dramatherapy** believe in the positive effects of group therapy. They perceived a degree of increased comfort patients manifested regarding their body perception (Wurr & Pope-Carter, 1998). At the end of another dramatherapy group, the severity of ED was reduced for all members. 3 members had no more binge-purge eating patterns. Members of a group reported personal changes in addition to a decrease in severity or cessation of EDs (Young, 1994).

Outcomes of studies with **multimodal arts-based approach** regarded to improvement in EDs symptoms are also promising. The patient in Diamond-Raab & Orrell-Valente's (2002) study was at the end of the treatment eating her meals without the need for nutritional replacements and achieved 95% ideal body weight. The urge to binge and purge in the patient decreased significantly. Another patient in their study achieved 100% ideal body weight (Diamond-Raab & Orrell-Valente, 2002). Further, results in a group of patients receiving treatment with a combination of various expressive therapies reported a significant overall change in the EDI ($F(8, 1) = 1179.39$, $p < .05$), with significant pre-to post-treatment decreases in seven of the eight EDI scales: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Perfectionism, Interoceptive Awareness, and Maturity Fears (Porter & Waisberg, 1992). Interventions in Karvonen's (2015) study supported patients in building a more positive body image. The patient reflected and processed her experiences and identified and expressed emotions in a way which supported her discovery of a more positive body image (Karvonen, 2015).

4.6.2 Outcomes Related to Emotions

Analyses of studies of all modalities indicate that arts therapists work with patients' emotions in many ways. There is a frequent need to express suppressed emotions which seems to be one of the strongest areas for AsTs in general. Improvement in the emotional states of patients has been measured with various psychodiagnostic tools. Mostly scales inventories and scales for anxiety and depression measurements were administrated.

Expressing emotions and feelings have been mentioned among the outcomes of five studies on the **modality of AT**. The topic of expressing emotions emerged through sessions when working with a group of patients with EDs (Johnson & Parkinson, 1999). AT sessions enabled the patient to express negative emotions, in particular, anger originally turned inward, and act out by image-making which allowed externalizing fury in a safe way (Jeong & Kim, 2006). In the Canadian quasi-experiment where museum visits were connected with AT sessions, the topic of art therapy as a means for self-expression, self-regulating and creativity was identified through thematic analyses (Thaler et al., 2017b). In the same study, the Composed-Anxious subscale of the POMS was administrated before and after AT intervention and reported more composed feelings at Time 2 than at Time 1 ($t(69) = -2.438$, $p = 0.017$). Between the beginning and end of the museum visit, participants felt a global reduction in anxiety (Thaler et al., 2017b). Rabin (2003) describes achievements in AT sessions with a patient who reached an understanding of some of her feelings and allowed herself to express these feelings (Rabin, 2003).

Images can serve as containers of extremes of emotions. Through images, the patient expressed her emotions in a non-verbal way and in a form that felt less threatening than making an attack on the therapist (Rust, 1992). Through art-making, participants could creatively deal with their negative emotions (Jeong & Kim, 2006). Also, Ki (2011) reported patient's improvement in sense of emotional well-being.

MT offers a variety of tools and interventions through which patients' emotions can be accessed or expressed. Learning how to stay with negative affects can be very beneficial, especially for patients with EDs. This process can avoid falling back for symptoms of EDs such as binge eating and purging. After MT sessions, the patient was able to stay with sad or depressed affects (Heal & O'Hara, 1993). In Sloboda's (1994) clinical case, musical expression was powerful and eloquent compared to communicating feelings through words for the patient. She surprised herself with her musical expression (Sloboda, 1994). Self-listening supports procedural and emotional memories of feelings (Trondalen, 2003b)

To highlight the quantitative results of studies by Bibb et al. (2015, 2019), a highly statistically significant ($p = <0.0001$) difference between the control and intervention conditions was found. Significantly decreases in post-meal-related anxiety and distress were reported in the group of patients with EDs receiving MT sessions in comparison to standard post-meal support therapy (Bibb et al., 2015). MT significantly decreased anxiety in patients with EDs with a statistically significant difference ($p = < 0.0001$) between the pre-test scores and post-test scores on the SUDS scale. The average decrease in anxiety of 2.3 integers on the

SUDS scale (Bibb et al., 2019). Based on the results of phenomenological analyses of semi-structured interviews, three main themes were identified: taking your mind off the meal, getting a break from anxiety and a chance to get to know others. Most importantly, MT was described as an expression of one's identity, a distress tolerance technique and as a tool for learning new coping skills for patients (Bibb et al., 2016).

Using **D/MT interventions**, the externalization of emotions through symbols and metaphors was supported (Oppikofer, 2012). Also, the externalization of aggression through movement was vital in enabling the clients to experience various themes (Feldman, 2017).

Psychodrama sessions allowed the patient to express feelings she felt in earlier situations in her life. This brought a new and more direct way of feeling and expressing emotions (Jefferies, 2000). Participants in another psychodrama group appeared able to express feelings more directly, both inside and outside a group (Young, 1994). Sessions applying both dramatherapy and psychodrama principles mentioned that 71% of patients reported that the positive feelings experienced during the workshops were accessible to them during their everyday life (Pellicciari et al., 2013). Psychodrama awoke more feelings in the protagonist and in other group members. The harrowing nature of the scenes resulted in group members starting to offer a corrective emotional experience instead of turning away from the patient as they did before (Meillo, 1991). This underlines the strong usefulness of psychodrama interventions since the patient was accepted by other members of the group through an understanding of her life situations. In a study by Callahan (1989), the patient expressed relief at having vented her feelings at the psychodrama session. She was surprised to experience herself confident during the play. Later, patient reported positive changes in her marriage related to the psychodrama session.

Multimodal approaches reported regained trust in the therapeutic process. This allowed the patient to continue in the therapeutic process and identify the moment of the beginning of ED behaviour. As she began to express increasingly her internalized feelings, she experienced thoughts of self-harm less frequently and with less urgency (Diamond-Raab & Orrell-Valente, 2002).

4.6.3 Gaining Insights, Understanding and New Perspective

Insight and understanding can be gained through non-verbal and verbal interventions. However, in the process of data analysation, it was obvious that AsTs therapies support patients to understand their symptoms, EDs, behaviour and relationship from a new perspective.

Further, understanding patients' eating patterns can be beneficial in avoiding disordered eating habits.

In the treatment engaging **modality of AT**, the use of art facilitated cognitive insights into the patient's current situation. Art was identified as an empowering tool, means of actively participating in decision-making and enhancing problem-solving skills (Matto, 1997). Thanks to AT, the patient was able to gain insight into her eating problems (Rust, 1992). Similarly, the patient better understood his feelings and realized the meaning of his relationship with food in another AT paper (Luzzatto, 1994). Thematic content analyses identified three significant themes in Chaves' (2011) study among which a theme of development of an increased understanding of others as a result of AT group sessions was present in 66% of participants. 63% of participants reported that the creation of art conveyed deeper feelings and more understanding than using words alone (Chaves, 2011). The Contour Drawing helped the patient to understand how much space she takes in reality and afterwards reached an understanding of some of her feelings (Rabin, 2003). Additional insights reflected on family relationships through AT activities. All participants saw they had a choice in their behaviour within the family unit (Bloomgarden, 1997). This kind of insight can lead to a change of behaviour and have a positive impact on a long-term scale.

As a result of **MT interventions**, the patient's use of musical instruments allowed them to increase his awareness of the passive role within the family. This could have been a valuable insight which would have not been reflected without musical improvisation (Sloboda, 1994). The female patient described in Sloboda's (1994) report began to understand the function of her ED. MT assisted patients through crises, helped them challenge cognitive distortions and gain insight (Hilliard, 2001). In another paper, musical improvisation provided new insight and understanding regarding the intrusive nature of the ED and helped patients to recognize how support has assisted them in maintaining their focus on recovery (McFerran & Heiderscheit, 2016). Inspiration on the way to recovery can be also gained by relatives. The patient's parents were intrigued by their daughter sharing in the MT and understood better her distress about gaining weight. They were inspired to use the weight statistics of ballerinas' to give the patient a new perspective on her actual weight (McFerran & Heiderscheit, 2016). This was a result of song-writing interventions in reaction to the patient's occupation with pop stars. During individual sessions, the music therapist supported the patient to portray through lyrics what it takes to be a pop star.

Valuable insights into the participants' processes were also gained in **D/MT sessions** (Savidaki et al., 2020). Using audio-visual tools is also a way of mediating new perspectives.

The patient was enabled to see herself from a different perspective after she was recorded on a video. She became aware of "what she was doing to herself" (Krueger & Schofield, 1986).

Psychodrama offered the possibility of an acutely felt, relived insight in the Dutch paper (Meillo, 1991). As reported by other studies, psychodrama can enable getting an understanding of the cognitive process that occurs during binges. The patient learned to step outside of the situation and observe her own behaviour objectively (Jay, 1994). At the end of the psychodrama group sessions, the patient better understood the dynamics and relationships within her family. Psychodrama also helped the patient to understand the behaviour she needs to maintain (Levens, 1994a). Through various techniques, she was able to share her feelings with the group and experience important situations in her life from a new perspective. (Jefferies, 2000). The patient was allowed to see her behaviour from a new perspective and talk to herself from a different role (Callahan, 1989).

Gaining insight was also mentioned as one of the outcomes of the **multimodal** arts-based study (Naitove, 1986). However, in this clinical example, incorporating arts-based interventions helped also other members of the multidisciplinary team to gain insight into patients' experiences. This suggests that arts-based therapies are an important part of the team and can bring material which is not accessed through other treatment options.

4.6.4 Outcomes Related to Self

Phenomena related to self and identity repeatedly appeared among outcomes related to arts-based interventions in patients with EDs. This refers to concepts of self-awareness, self-satisfaction, self-confidence, sense of self as such, or even self with various adjectives (true self, false self, distorted self). In one study, the anorectic self was described.

Modality of AT reported a number of outcomes related to self. AT enabled patients to gain a deeper awareness of self and identification of patient's needs. This process helped to "heal and grow". Further, in the same study, confrontation of a patient with her negative mindset was achieved through participation (Misluk-Gervase, 2020a). Modification of sandplay called "offering" applied in the group of patients with EDs enabled them to express a sense of self and provided an opportunity to create, change and control their environment (Bloomgarden, 1997). Patients also realized they have a choice in their behaviour occurring in their families.

One of four main outcomes identified by 50% of the participants in the study of Chaves (2011) was having an increased self-awareness as a result of taking part in AT sessions. Need

to establish a separate identity from the patient's mother and to work towards a more clarified sense of self emerged through image-making and discussion in individual sessions with 15 years old female patient with AN (Jeong & Kim, 2006). AT support group identified four interrelated themes based on phenomenological analyses of semi-structured interviews. One of them referred to the development of self-awareness (Ki, 2011).

In Rabin's (2003) case studies, the TSCS results showed increased scores in patients' overall Positive total, Self Satisfaction, Physical Self, Personal Self, Family Self and Social Self. The patient recognised dynamic patterns within her family and relationships (Rabin, 2003). AT also helped to improve self-confidence and find the patient's own identity (Steinbauer et al., 1999). Through artwork and patients' associations with the artwork, the following themes have been revealed: distorted, deformed self; the inner sense of emptiness and loneliness; the anxiety over control and boundaries (Wolf et al., 1986). The identification and creation of the symbol of the "recovered self" demonstrated the successful completion of the patient's therapeutic goals and recovery from her ED (Misluk-Gervase, 2020b).

As Lejonclou & Trondalen (2009) described in the case study, **MT** built and supported the patient's self-confidence. Based on the analysis, a musical relating experience followed by verbal processing supported a coherent sense of self in another study (Trondalen & Skårderud, 2007). Poietic processes in MT have potential in individual self-experiences that engage fundamental motivational aspects of semiotic and symbolic functioning. A possible re-generative effect on the individual's sense of self or identity can be observed (Robarts, 2000b). In Sloboda's (1994) practice, the patient was able to depict her "anorectic self" in improvisation. Playing the violin was as if finding a new voice that needed to be explored (Sloboda, 1994).

An increase in self-awareness was present in a study applying **D/MT interventions** (Savidaki et al., 2020). Through D/MT processes, acknowledgement of the whole self was achieved in a group of female patients (Kleinman, 2015). One of the themes identified through collected data in Feldman's (2017) paper was called "true self".

The topic of real and false self was often discussed through the course of sessions in the **multimodal approach** of arts-based interventions. The need of hiding real selves and please others emerged through discussion (Hinz & Ragsdell, 1990). Significant pre- to post-treatment decreases were also found on the Self Control scale of the Reid-Ware Multidimensional I-E Scale, indicating a shift toward a more internal locus of self-control (Porter & Waisberg, 1992). The combination of music, body movements and dance helped the patient to gain greater self-esteem (Karvonen, 2015).

4.6.5 Learning New Skills

The therapeutic process can equip patients with new skills for various domains in their life. To bring a tool from the therapy to apply it in everyday life even after the therapy ends or between sessions can be very beneficial in the recovery process.

Art was recognised as an empowering tool, means of actively participating in decision-making, and enhancing problem-solving skills (Matto, 1997) in **AT** study. Noticeably, various techniques of AT can have a special potential as patients developed a self-soothing skill using watercolour. This was a very critical skill for her to develop and played an important role on their way to recovery (Estep M, 1995).

MT can serve as an expression of one's identity, as a distress tolerance technique and as a tool for learning new coping skills (Bibb et al., 2016). The opportunity to gain new coping skills was also utilized in MT with a cognitive behavioural approach with a group of patients with EDs (Hilliard, 2001).

Coping skills can be also taught by applying **psychodrama** interventions (Jay, 1994).

4.6.6 Reconnection between Body and Mind

Self-listening supports procedural and emotional memories of feelings and contributes to a closer connection between soma and psyche (Trondalen, 2003b). A closer connection between body and mind was maintained in MT sessions (Trondalen & Skårderud, 2007).

D/MT in a group enabled learning how to reconnect to themselves (Kleinman, 2015). However, maintaining a connection with one's body can bring up emotions and can be truly burdening for a person with ED. This was one of the outcomes of long-term therapy of D/MT in a study. Due to reconnecting with body and body awareness, a relapse and hospitalisation occurred in a patient with AN (Rice et al., 1989). Luckily, returning to therapy helped the client feel stronger and enabled them to integrate and understand her weight gain.

Connection with the body can be truly terrifying for patients with EDs. This was confirmed with categories emerging through analyses of interviews based on psychodrama sessions. Following categories emerged: fear of connection, fear of emotional connection, fear of body connection and fear of connection to others (Bailey, 2012). The aspect of connection seems to be strongly present with the emotion of fear in various domains.

5 Discussion

The current scoping review enabled to map of available research evidence of the application of AsTs in the treatment of people with EDs. There is available research evidence being published in more than the last thirty years, with the first studies within the field emerging in 1986. The most recent studies have been published in 2020 which was also the year when a search in databases was conducted. Overall, studies originating in 4 continents, North America, Europe, Australia and Asia, were identified through the search. Although only one study was conducted in Asia, specifically in South Korea. There were ten countries in Europe from where authors contributed to the field: Finland, Norway, Austria, Germany, United Kingdom, Spain, Portugal, Switzerland, Italy and Netherlands. The highest number of studies among modalities was identified in AT. Most of the arts-based interventions were applied to patients with AN, some with diagnosis of BN or EDNOS. There was no study applying arts-based interventions in the treatment of BED. This suggests a need for further research.

Identifying methodological frameworks of relevant studies brought challenges on many levels. Of the sixty-two included papers, 69% of the study designs were identified as clinical case/group reports without applying or mentioning reliable methods for data collection. Therapists' descriptions, observations and parts of dialogues with patients or patient's references of the therapeutic process rather than outcomes based on measurements or application of standardized diagnostic tools were applied in these studies. This indicates there is a space and need for improvement in the methodological quality of studies in future research in the field of AsTs and EDs. Further, 10% of case studies used specific methods of data collection. Few studies were based on a methodological framework of quasi-experiment, case series, qualitative design with phenomenological analyses or analyses based on grounded theory. Two studies applied mixed-design analysing of both qualitative and quantitative data and one feasibility study of Randomized Control Trials as part of the final data set. Assuming huge heterogeneity of studies, conducting a systematic review and further synthesis and meta-synthesis might be not possible. As quantitative-based evidence among studies was scarce, the recommendation for future research in conducting studies with quantitative study designs is evident. The need for high-quality evidence in the field is also necessary in order to incorporate arts-based interventions in the treatment of EDs with a better understanding of other professionals.

One of the review questions targeted identifying **types of arts-based interventions** used in the treatment of EDs. Overview of techniques and methods used in each modality is

attached in appendix G. In some studies, specific interventions were not described, while other studies provided step by step structure of sessions with explanations for each technique. The use of a broad variety of arts-based interventions was reported in the practice with the clinical population of patients with EDs. Each modality of AsTs has characteristics specific to its field and comparison among modalities would be beneficial. While it was not aimed at comparing modalities as a part of the thesis, in the prepared scoping review (Bucharová et al., 2020), creating a comparison between modalities is intended. As the author of the theses is mainly focused on the modality of music therapy, experts from art therapy, dance/movement therapy and dramatherapy are part of the team in the ongoing review and will enable, thanks to their expertise, to understand each domain from a professional perspective.

Interventions of AsTs are applied in various contexts, in inpatient and outpatient settings. Arts-based therapists work as a part of multidisciplinary teams or in their own ambulances. As a part of multidisciplinary teams, through their work, valuable insights and progress can emerge for all the team. All modalities of AsTs are applied in both individual and group settings, however, psychodrama is traditionally realized in a group setting.

Moreover, arts-based interventions seem to offer promising tools with characteristic differences compared to verbal-based therapy approaches. In some studies, patients reported that art creation conveyed deeper feelings and more understanding than using words alone (Chaves, 2011; Hunter, 2016). Noticeably, the picture can serve as a medium through which a transaction between the patient and the therapist can begin. Schaverien (1994) described a case, in which a patient created an "embodied image" and let the therapist slowly get into her world through the painting. This was the first step for the patient to admit how she felt.

Further, images can be used as containers for extreme emotions (Rust 1992, 1994) and as a tool for "creating evidence of what is in my head" (Hunter, 2016). Art was also perceived as empowering tool or distraction technique by patients (Chaves, 2011; Matto, 1997).

There is a specific technique in the modality of AT with strong potential when working with people with EDs. As patients perceive their bodies in a distorted way, providing an opportunity to gain a new perspective on their real size is essential. In AT, the patient can lie down on a paper and a line as a contour of the body can be drawn around the person. To step back from the paper and looking at the lines with patients' eyes can bring a new insight (Jeong & Kim, 2006). In general, artwork can bring material for interpretation and processing on a verbal level (Johnson & Parkinson, 1999).

To address the second review question, **therapeutic outcomes related to AsTs** in the treatment of EDs have been analysed and sorted into six categories. Following categories have been described: improvement or reduction of eating disorders symptomatology, outcomes related to emotions, gaining insights, understanding and new perspective, outcomes related to self, learning new skills and reconnection between body and mind.

It seems evident that AsTs possess the opportunity to work with emotions in various ways. Especially with patients with EDs, it is necessary to incorporate treatment approaches that enhance options for emotional expression, accessing emotions and connecting to emotions. In this aspect, AsTs show promising outcomes. AsTs seem to access emotions on different levels compared to verbal therapies. An example of a patient revealing things involuntarily through art was described (Natiove, 1986). However, the patient does not have to be ready yet to process emerging topics, therefore, the therapist needs to be careful with the timing of specific methods. Commentary of Wurr & Pope-Carter (1998) noted that dramatherapy techniques are ultimately very useful for people with EDs, however, may be counter-productive if used too quickly or intensively. Timing, therefore, plays an important role in the therapeutic process.

Outcomes indicate that AsTs can provide patients with EDs with tolls transferable into daily life. Firstly, coping skills and problem-solving skills are examples of skills enhanced in patients with EDs. There is a study referring to MT tools which can be developed during MT sessions and can equip patients with a tool accessible at home. This was a case of the development of a personalised playlist based on the iso principle (Heiderscheit & Madson, 2015). In AT, patients can create symbols or artworks to remind themselves later important messages. The patient created a symbol of a recovered self which was a strong moment in the recovery process (Misluk-Gervase, 2020).

Although not classified among earlier mentioned categories, there is a community aspect of AsTs in a group setting which helps patients to get to know each other or to spend time with other people. Also, a group setting can serve as a space to learn social skills, which was particularly visible in psychodrama (Jefferies, 2000).

There were a number of patients engaging in AsTs and realizing, that due to their ED, they have lost their interest. This issue was specifically connected to playing musical instruments (McFerran & Heiderscheit, 2016; Sloboda, 1994).

Rates of women with EDs among women pursuing fertility treatment are higher than compared of the general population (Hecht et al., 2022). Unsurprisingly, themes and topics emerging through arts-based intervention were often connected with feminine topics such as

femininity as such (Padrão & Coimbra, 2011), fertility (Acharya et al., 1995) and women's sexuality (Padrão & Coimbra, 2011, Rabin, 2003). In a paper by Jennings (1994), a woman diagnosed with AN was seeking help at fertility clinics and received dramatherapy sessions which helped her on her way to recovery. Particularly in AT, a symbol of the ovary emerged through paintings in a number of patients (Acharya et al., 1995; Wood, 2000).

The inclusion and exclusion criteria of the scoping review conducted in the thesis have small deviations compared to the final scoping review realized in the team as was described in section Methods. There is a language limitation in studies included in the final data set of the thesis. Only full texts written in English were included. However, papers written in any language without limitations are going to be included in the final scoping review. This will enable to provide even less limited synthesis of available data. Further, current Controlled Trials were not reported in the thesis however will be investigated in the final scoping review. Further, among the largest limitations of the thesis can be considered the lack of the author's expertise in the field of AT, D/MT and dramatherapy/psychodrama, since her primary research focus is in MT. Therefore, experts from each modality are cooperating on the final scoping review.

Conclusion

The scoping review aimed at identifying available research evidence in the practice of AsTs in the treatment of people with EDs. Two specific research questions were stated to identify arts-based interventions used in the practice of AsTs and their application in EDs treatment and outcomes related to arts-based interventions in the treatment of EDs. The review included 62 studies applying AT, MT, D/MT, dramatherapy/psychodrama or arts-based multimodal approaches in patients with EDs. A variety of methods and techniques in each modality are used in the practice. Interventions are dependent on the therapist's approach and on the context.

Arts-based interventions seem to provide helpful tools and methods when treating patients with EDs. Their non-verbal aspect allows them to access emotions on different levels and intensities and can accelerate the therapeutic process. The creative side of AsTs can bring patients playfulness and tools transferable to everyday life. Each modality of AsTs has its own characteristics however there are aspects common for all modalities. Comparison among modalities will be done within the team of experts in an ongoing scoping review following an earlier published protocol (Bucharová et al., 2020).

Results indicate there is a need for conducting more research in the field with the application of quantitative study designs and utilizing standardized methods for data collection. Further, the application of AsTs in treating BED has not yet been researched.

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APPENDICES

Appendix A

Scoping Review Details
Title:
Author:
Year:
Study design:
Country and settings:
Population:
Methodology:
Other therapeutic interventions:
Type of AsTs:
Characteristics of arts-based interventions:
Therapeutic outcomes related to AsTs:

Appendix B

Author, year	Study design, country and setting	Population	Methodology	Type of AsTs, Other therapeutic interventions	Characteristics of MT interventions	Therapeutic outcomes related to MT
(Bauer, 2010)	Clinical case report, Germany, Outpatient psychotherapy service	Number of participants: 1, F Age: 28yo, Diagnosis: BN	Analyses of videotapes	Need Adapted MT -	Length of treatment: 10 m., 28 sessions, 1 session = 60min Individual sessions: instrumental improvisation, verbal reflection	Expression of the basic needs in the patient's way of playing. Episodes of binge eating became rare.
(Bibb et al., 2015)	Quantitative, quasi-experimental design Australia, Adult Eating Disorder Inpatient Program	Number of participants: 17 (F:16, M:1) Mean age: 22yo Age range: 20-58yo Diagnosis: AN	Subjective Units of Distress Scale (SUDS), administrated pre and post each intervention and control condition	Humanistic approach within MT Control group: meal support therapy	Number of sessions: 173 (MT=89, control condition=84) Frequency: 60 min session twice/week Group MT: singing, listening to songs, sharing music with others, writing songs together	Highly statistically significant (p = <0.0001) difference between the control and intervention conditions was found. Outcomes indicated a significantly decreases post meal related anxiety and distress compared to standard post meal support therapy.
(Bibb et al., 2016)	Qualitative, descriptive phenomenological microanalysis Australia, Adult Eating Disorder Inpatient Program	Number of participants: 10, gender not specified Age: adults, not specified Diagnosis: AN	semi-structured interviews	MT -	Frequency: 60 min, 1 session twice/week Group MT: singing, listening to songs, talking about and sharing music with others, writing songs together	Three main themes were identified – taking mind off the meal, getting a break from anxiety, a chance to get to know others. MT as an expression of one's identity, MT a distress tolerance technique, as a tool for learning new coping skills.
(Bibb et al., 2019)	Quantitative, case series Australia Outpatient day program	Number of participants: 13, only females Age: not specified Diagnosis: AN	Self-report Subjective Units of Distress Scale (SUDS), administrated pre and post intervention	Resource-oriented MT Debriefing with the staff after returning back from an eating event before the MT session	Number of sessions: 13, 1 session= 60min, after lunch Group MT: singing, listening, choosing and discussing familiar songs together	MT significantly decreased anxiety with statistically significant difference (p = < 0.0001) between the pre-test scores and post-test scores in the SUDS scale. The average decrease in the anxiety of 2.3 integers on the SUDS scale.

(Heal & O'Hara, 1993)	Clinical case report UK, Outpatient setting	Number of participants: 1, F Age: 28yo Diagnosis: poor appetite and frequent vomiting after food Comorbidities: Down's syndrome	Description of the clinical case without research methodology	MT -	Length of treatment: 9 m. Frequency: 1 session/week Individual sessions: 5 stages of treatment MT interventions: improvisational music, sound pictures, hello and goodbye songs	Patient was able to follow through ideas and thoughts verbally. She was able to stay with sad or depressed affects, occasionally expressed through somatic symptoms, however with weight stabilized.
(Heiderscheit & Madson, 2015)	Case study, description of data evaluation not included in the study USA, Compulsive Overeating Intensive Outpatient Program (COE-IOP)	Number of participants: 1, F Age: 57yo Diagnosis: EDNOS Comorbidities: Major Depressive Disorder, Generalized Anxiety Disorder	5-point Likert-type scale utilised for developing systematic iso playlist, 10-point Likert-type scale for rating client's depression	MT – Iso principle, BMGIM Group verbal psychotherapy, meal support, individual psychotherapy	Frequency: 1 session/week Individual sessions: development of personalised playlist – continuum from depression to hopefulness based on iso principle.	BMGIM: patient connected with her emotions, accessed, and worked with emotions, and developed new coping strategies. Iso principle: utilizing playlist enabled mood management and better engagement in ED treatment.
(Hilliard, 2001)	Clinical case report Florida, USA, Renfrew Centre of Florida CBMT program implemented in a residential treatment facility	Number of participants: varied, max 10 participants per session Age range: 14-55yo Diagnosis: EDs (not further specified) Comorbidities: various	Description of the clinical case without research methodology.	CBMT – Cognitive-Behavioural Music Therapy Residential treatment, psychotherapy	Frequency: 1 session/week MT interventions: musical games, sing-along, song-writing exercises with light-hearted themes, lyrics analyses, listening to music at group sessions or while eating, drumming, song writing,	MT assisted patients through crises, allowed them to challenge cognitive distortions and gain insight. A sense of community was established. Gaining new coping skills.
(Lejonclou & Trondalen, 2009)	2 clinical case reports Norway Inpatient specialized unit for EDs	1. Number of participants: 1, F Age: 19yo Diagnosis: AN 2. Number of participants: 1, F Age: 25yo	Description of the clinical case without research methodology	Expressive and receptive MT, based on psychodynamic theory, Stern's concepts -	1. Length of treatment: 3 years Individual sessions: Listening to music together, playing and singing with and without words, writing songs body	1. Patient was able to express her emotions. MT built and supported patient's self-confidence. 2. Patient learned to express emotions and share them with others, became more satisfied

		Diagnosis: BN			movements through mirroring exercises 2. Length of treatment: 2 years Individual sessions: using a variety of instruments, sounds, melodies and recorded music, searching for the inner sound of the body, music improvisation, verbal dialogue, drawing, music composing	with her body. Binging and purging reduced.
(McFerran et al., 2006)	Qualitative content analysis, phenomenological Australia, Melbourne Royal Children's Hospital Intensive outpatient treatment	Number of participants: 15, F Age range: 12-17yo Diagnosis: AN Comorbidities: -	Retrospective lyrical analyses of songs collected in MT sessions	MT Multidisciplinary ED program	Length of the session: 60min Individual sessions: verbal and imaginal self-expression.	6 themes and 38 categories were identified, the most frequently used theme: identity, relationship dynamics (particularly daughter-mother dynamics) MT was effective in soliciting information not disclosed to other team members, processing of significant therapeutic issues.
(Robarts, 2000)	Clinical case report, analysis based on Poietic Processes in MT UK, Inpatient care	Number of participants: 1, F Age: 14yo Diagnosis: AN Comorbidities: suicidal symptomatology	Description of the clinical case without research methodology	MT -	Individual sessions: musical improvisation, piano playing	Poietic processes in MT have potential individual self-experiences that engage fundamental motivational aspects of semiotic and symbolic functioning. There is a possible re-generative effect on the individual's sense of self or identity.
(Trondalen, 2003)	Case study, qualitative phenomenologically inspired procedure for data analyses, focus on significant moments, adapted version of Structural Model for Music Analyses (SMMA)	Number of participants: 1, F Age: 26yo Diagnosis: AN	Interviews	MT Psychotherapy	Individual sessions: improvisational music of the therapist with the client was recorded and used for the self-listening technique	Self-listening supported procedural and emotional memories of feelings and contributed to a closer connection between soma and psyche. Client evaluated experience of self-listening as important.

	Norway Setting not specified					
(Trondalen & Skårderud, 2007)	Case study, phenomenologically inspired procedure for data analysis Norway, Outpatient setting	Number of participants: 1, M Age: 19yo Diagnosis: AN – purging type	Analysis of recordings by the music therapist and scientific researcher	MT with focus on affect attunement rooted in developmental psychology (described by Stern) Verbal psychotherapy	Length of treatment: 12m. Number of sessions: 19 Individual sessions: free improvisation followed by a verbal dialogue.	Attuned sharing of affects allowed patient to maintain better emotional regulation, the closer connection between body and mind, and reduced ED symptoms after MT. A coherent sense of self was supported. Based on analysis: a musical relating experience followed by verbal processing provides a link between body and mind, and supports a more coherent sense of self.
(Nolan, 1989)	Clinical case report Philadephia, Pennsylvania, USA Setting not specified	Number of participants: 1 F Diagnosis: BN	Description of the clinical case without research methodology	MT Verbal psychotherapy	Group sessions: group improvisation, music as a transitional object.	Group musical environment increased patient's strength in tolerating a deeply felt affective experience. Further, patient was able to maintain involvement with her inner state for an unusually long period of time and later stated that prior to this occasion she had not been able to cry for more than a few seconds without resorting to food.
(Robarts, 1994)	Clinical case report UK Inpatient setting	Number of participants: 1 F Age: 13yo Diagnosis: AN Comorbidities: chronic depression	Description of the clinical case without research methodology	MT Family Therapy, Individual Verbal Therapy	Length of treatment: 1 year (46 sessions in total) Frequency: 1 session per week, 1 session=45min Individual sessions: piano playing, musical improvisation	Patient became more connected with her emotions. Her behaviour generally began to show more emotional stability and she was able to maintain a safe weight independently.

(Sloboda, 1994)	Clinical case report UK, London Inpatient setting	**1.** Participants: 1 F Age: 17yo Diagnosis: AN **2.** Participants: 1 M Age: mid.thirties Diagnosis: BN **3.** Participants: 1 F Age: 33yo Diagnosis:BN 4. Participants: 1 F (post graduate student) Diagnosis: AN	Description of the clinical case without research methodology	MT Multi-disciplinary team	**1**. Length of treatment: 6 weeks, 4 sessions Individual session: improvisation, role play (choosing an instrument to represent patient's mother and herself) **2.** Length of treatment: 11 weeks Individual session: musical improvisation and role play. **3.** Individual session: musical improvisation **4.** Length of treatment: 6 months Frequency: Individual sessions: musical improvisation (violin) on various topics (This is who I am)	**1.** Musical expression was powerful and eloquent compared to communicating feeling through words for the patient. She was surprised herself by her musical expression. **2.** Patient's use of musical instruments helped to increase his awareness of the passive role within the family. After 11 weeks of MT, client became aware of his internal critical voice. **3.** Patient posture changed from controlled movements to "letting herself go" experience. She began to understand function of her ED. **4.** Patient was able to expierence her own emotional stat. She was able to depict her "anorectic self" in improvisation. Playing violon was as if finding a new voice that was needed to be explored. By playing violon, she was able to express emotions she was not able to express by words. Patient's weight increased and menstruation resumed.
(McFerran & Heiderscheit, 2016)	Clinical case reports Country not specified - probably: Australia/USA Intensive outpatient setting, residential setting	1. Participants: 10 patients Diagnosis: EDs not specified Age: 19-43 2. Participants: 1 F 3. Participants: group Diagnosis: EDs not specified	Description of the clinical case without research methodology	MT 1. Psychodynamic approach 2. Humanistic approach 3. Cognitive-behavioral approach 4. Ecological approach	1. Group sessions: musical improvisation-topics: recovery rhythm, voice of ED 2. Frequency: 2 times per week Group sessions: music-assisted relaxation, guided imagery and music, songwriting, improvisation, and song analysis, music making	1. Improvisation provided new insight and understanding regarding the intrusive nature of the ED and helped patients to recognize how support has assisted them in maintaining their focus on recovery. 2. After the MT session, patient realized her wish to reclaim music back into her life. 3. The group was proud of their song. Patients felt good about

		4. Participant: 1 F		-	3. Group sessions: Songwriting 4. Individual sessions: songwriting-topic: what it takes to be a pop star	being able to focus on accepting their body rather than rejecting it. 4. Patient's parents were intrigued by their daughter sharing in the MT and understood better her distress about gaining weight. They were inspired to use weight statistics of ballerinas' to give patient new perspective on her actual weight.

Appendix C

Author, year	Study design, country and setting	Population	Methodology	Type of AsTs, other therapeutic interventions	Characteristics of arts-based interventions	Therapeutic outcomes related to AsTs
(Acharya et al., 1995)	Clinical case report UK Inpatient setting	Number of participants: 1F, 27yo in open format group Diagnosis: AN, bulimic symptoms	BMI, BISR-Body Image Self Rating Discussion over pictures with psychiatrist	Art Therapy Body image therapy	Length of treatment: 15 months Frequency: 1 session per week Group sessions: painting	Identifying themes of the patient's psychopathology and therapeutic process: Depression and isolation, control and obsessions, danger and self-destructive behaviour, fertility and body image, family issues.
(Bloomgarden, 1997)	Clinical case report New York, USA Outpatient program	Number of participants: 3 F Diagnosis: EDs, not specified	Description of the clinical case without research methodology	Art Therapy – author's technique 'offerings' – modification of Sandplay therapy	Frequency: 90min long session weekly Group session: activities with clay figures-arranging them with objects, creating configuration with figures, using imagery, metaphors and symbolism	Family relationships emerged through activities. all members saw they had a choice in their behaviour within the family unit Expressing a sense of self, and the opportunity to create, change and control their environment.
(Chaves, 2011)	Mixed design USA, Colorado Eating Disorders Unit (EDU) at The Children's Hospital in Aurora, Colorado	Number of participants: 7 F, 1 M Age: 12-20, ave.age:16 Diagnosis: 7 AN, 1 EDNOS	**Quantitative data:** - Rosenberg Self-Esteem Scale (RSE) Hartz Art Therapy Self-Esteem Questionnaire (HARTZ AT-SEQ) - Visual Analogue Scales (VAS) for depression, anxiety, anger, and shame - Subjective Units of Distress (SUDS) **Qualitative data:**	Art Therapy Multidisciplinary treatment at EDU	Length of treatment: 2 months Frequency: 1 session per week Group sessions: therapeutic art book making	**Quantitative data:** Results of a paired-samples t-test indicated there was no change in RSE and HARTZ AT-SEQ scores for the group as a whole. SUDS: all participants showed improvement however there were no significant changes over time. VAS: Results indicated that scores for all mood states decreased significantly during the first session. **Qualitative data:** 3 significant themes were identified by 66% of the participants: 1) the use of art as a distraction technique, 2) the art book being significantly different from a written journal, and 3) the development of an increased understanding of others. 63% of participants reported that the creation of art conveys deeper feelings and more understanding than using words alone.

			Interviews - thematic content analysis			4 themes were identified by 50% of the participants: 1) having an increased self-awareness, 2) feeling as if the art technique helped them to better communicate with others, 3) increased pride, and 4) an increased sense of relief 2 themes identified by 37% of the participants: 1) "art book as a marker of progress" and 2) "feelings of increased confidence."
(Estep M, 1995)	Clinical case report USA, Ohio Private practice	Number of participants: 1F, 28yo Diagnosis: BN Comorbidities: PTSD, childhood victim of severe sexual abuse, self-mutilation behavior	Description of the clinical case without research methodology	Art Therapy Verbal psychotherapy	Length of treatment: 7 month, total of 27 sessions Frequency: Individual session: drawing, painting, cray-pas	The patient developed a self-soothing skill – using watercolour. This was a very critical skill for her to develop.
(Hunter, 2016)	3 Clinical case reports California, USA Setting: not specified	1. Number of participants: 1 F Age: 23yo Diagnosis: AN 2. Number of participants: 1 F Age: 34yo Diagnosis: BED 3. Number of participants: 1 F Age: 28yo Diagnosis: BN	Description of the clinical cases without research methodology	Art Therapy Not specified	1. Individual session: affirmation cards, painting with watercolour. 2. Individual session: affirmation cards, colour pencils, oil pastels, painting self portrait 3. Individual session: affirmation cards, drawing with pastels	1. Free-flowing images on the affirmation cards helped the patient to "let go" of her desire to create a perfect image. 2. Patient perceived a difference between art therapy sessions and talk therapy sessions: she was able to "create evidence of what is in my head" in art therapy session. 3. Patient agreed that the positive affirmation images developed in the art process could continue to inspire and instil hope throughout the recovery process.

(Jeong & Kim, 2006)	Clinical case report South Korea Outpatient treatment	Number of participants:1F, Age: 15yo Diagnosis: AN	Description of the clinical case without research methodology	Art Therapy Physical monitoring, multimodal approach	Length of treatment: 2 months Frequency: 1 session per week Individual sessions: drawing and painting, discussing paintings	The patient could creatively deal with her negative emotions and give herself shape by drawing herself. Need to establish a separate identity from the patient's mother and to work towards a more clarified sense of self emerged through images making and discussion. >Regaining weight maintained in healthy range >Expressing negative emotions (anger turned inward) – acting out by image-making = externalizing fury in a safe way >Reduction in her preoccupation with food
(Johnson & Parkinson, 1999)	Clinical group report UK	Number of participants: not specified Diagnosis: EDs – not specified	Clinical description of the group sessions without research methodology	Art Therapy – analytic approach	Length of treatment: 9 month Frequency: 90min session per week Group sessions: painting, not further specified	Artwork in the group brings material for interpretations and supports psychodynamic treatment. The topic of expressing emotions emerged through sessions.
(Ki, 2011)	Qualitative study, phenomenological Canada Eating disorder support centre Support group in non-clinical setting	Number of participants: 6F Age: 20-45 Diagnosis: EDs not specified	Study of the Lived Experience Creswell methodology: Individual, semi-structured, in-person or phone interviews (35-50 mins long) Phenomenological analysis of topics	Art-based support groups	Group sessions: artmaking, discussion	Four interrelated themes: 1. Sense of Control over Process 2. Sense of Safety 3. Development of Self-awareness 4. Improvement in Sense of Emotional Well-being Participants shared that having a flexible structure for artmaking was helpful. Through viewing the art product patient was able to identify and take ownership of feelings that she has dismissed in the past.
(Levens, 1994)	Clinical case report of 1 session of a therapeutic group UK Eating Disorders Unit London teaching hospital	Group of participants-not specified Diagnosis: AN/BN Comorbidities: victims of sexual abuse	Clinical description of the group session without research methodology	Art Therapy CBT/psychodynamic approach, multidisciplinary approach	Frequency: 1 session per week Group session: guided fantasy followed by image making	Participants of the group reflected upon their experience of guided fantasy followed by image making. Many reactions were connected with unease to let themselves be directed and have found the experience of guided fantasy as "controlling".

(Liebmann, 2004	Clinical group report UK Residential unit for young women with long-term chronic EDs	Participants: group of women Age: 16-19yo Diagnosis: long-term chronic EDs	Clinical description of the group sessions without research methodology	Art Therapy Not specified	Group sessions: squirting paint into thick paper, passing images round for everyone to contribute, activity based on patient's gift to the therapist – t-shirt: completing sentences beginning with "I wonder.." on papers in shape of t-shirt	Activity prepared by the therapist in reaction to the patient's gift opened the door to honest communication between group members. Even more resistant participants joined the creative process and the group. Described activity illustrates how writing and visual work can be interwoven to good effect.
(Lock et al., 2018)	RCT (feasibility study) California, USA	Two groups of participants: 1. 15 adolescents Age: 12-18 Diagnosis: AN 2. 15 adolescents Age: 12-18 Diagnosis: AN	BAI, BDI, BMI, CY-BOCS, EDE, HRQ, K-SADS-PL, RCFT, TSPE, WASI, WCST, YBC-ED	1. CRT, FBT 2. AT, FBT	Length of treatment:15 sessions of AT prior FBT sessions 1 session= 30min Group sessions: exercises to promote emotional expression, art activities	Results suggest that it is possible to change OC thinking in adolescents with AN through the combination of FBT with either AT or CRT and that these changes might be related to improvement in neurocognitive functioning.
(Luzzatto, 1994)	Clinical case report UK, London NHS	Number of participants: 1M Age: 21yo Diagnosis: AN	Description of the clinical case without research methodology	Art therapy Not specified	Length of treatment: 6 months Frequency: 18 sessions, 1 session= 1 hour Individual sessions: drawing, using painting as a metaphor, blind drawing	A positive outcome has been confirmed by a follow-up through the patient's GP three years after termination of therapy. The patient better understood his feelings and realized the meaning of his relationship with food. Change has developed in the lifestyle of the patient.
(Matto, 1997)	2 Clinical case reports Maryland, USA	Number of participants: 1. 1F, early twenties Diagnosis: AN 2. 1F, age not specified Diagnosis: BN	Description of the clinical case without research methodology	Integrative Art Therapy CBT framework	Individual sessions: 1. acrylics on canvas, visual dialogue – artwork as a means of exploration, body tracing technique (Totenbier 1995) 2. self-portrait drawing, mirror image, caricature drawing technique - Totenbier	1. Facilitation of cognitive insights into patient's current situation through art. Art is an empowering tool, means of actively participating in decision-making, enhancing problem-solving skills, and facilitating cognitive insights. 2. Confrontation of the client with her cognitive distortion of magnifying the dislikes while under-emphasizing the likes of her body.

(Misluk-Gervase, 2020a)	Case studies USA International Association of Eating Disorder Professionals - *Imagine Me Beyond What You See* art competition	Number of participants: Group 1: 4F Age: 20-40yo, Diagnosis: EDs Group 2: 4F, Age: 20-40yo, Diagnosis: EDs	Description of the clinical case without research methodology	Art Therapy	Length of treatment: 5 weeks Frequency: 1 session per week Group sessions: creation of collaborative art piece, mannequin as the foundation of the art making-painting mannequin, using various materials to cover mannequin, discussion, reflection upon a poem	Gaining a deeper awareness of self, identifying patient's needs, adopting a kind and positive mindset Confrontation a patient with her negative mindset through participation. The process helped to "heal and grow". Group helped to gain a deeper knowledge of self, and identify her need to challenge thought processes rooted in her ED.
(Misluk-Gervase, 2020b)	Clinical case report Indiana, USA	Number of participants: 1F, college-aged Diagnosis:AN Comorbidities: generalized anxiety disorder	Description of the clinical case without research methodology	Art Therapy – based on The Nourishment Framework (author's treatment approach) and Expressive Therapies Continuum	Length of treatment: 2 years Individual sessions: collage making, mandala making, clay modelling, origami, creating symbols, wet on wet making, discussing images and symbols with therapist and their relation to recovery	The identification and creation of her symbol of "recovered self" demonstrated the successful completion of her therapeutic goals and recovery from her ED.
(Rabin, 2003)	Case studies USA	1. Participants: 1 F Age: 25yo Diagnosis: AN Comorbidities: depression, suicidal tendencies 2. Participants: 1 F Age: 46yo Diagnosis: ED-not specified	Tennessee Self Concept Scale (TSCS) Self Report Form Eating Questionnaire	Art Therapy – Phenomenal and Nonphenomenal Body Image Tasks Not specified	Individual sessions: mandalas self box, sandworlds kinetic family clay, sculpture, body contour drawing, mirror viewing, face mirror viewing, full-length body dimension estimates and measurements, chromatic family line drawing	1. The TSCS results show increased scores in her overall Positive total, Self Satisfaction, Physical Self, Personal Self, Family, Self, Social Self and a decrease in Variability. The patient recognised dynamic patterns within her family and relationships. Therapy allowed the patient to accept herself and feel more stable. She became conscious of the unconscious forces that possessed her. The Contour Drawing helped the patient to understand how much space she takes in reality. 9 months after therapy: stabilized weight, regular eating patterns. 2. Significant positive shifts in her score for Physical Body. The patient had increased her authentic perception of her body size, sexuality, state of health, physical appearance, and skills. Improvement in her attitudes about food, weight, family

						relationships, and work. She reaches an understanding of some of her feelings and allows herself to express these feelings
(Rust, 1992	Clinical case report UK, London Private setting	Number of participants: 1 F Age: early twenties Diagnosis: BN	Description of the clinical case without research methodology	Art Therapy	Length of treatment: 1 year Frequency: 2 sessions per week Individual session: painting of self-portraits in various conditions.	Images had value as containers of extremes of emotion expressed in a non-verbal way and in a form that feels less threatening than making an attack on the therapist. The patient was able to gain insight into her eating problems
(Rust, 1994)	Clinical group reports UK, London Women's Therapy Centre	Participants: 3 groups of women Diagnosis: compulsive eating, BN	Description of the group sessions without research methodology	Analytic Art Therapy Not specified	1. Length of treatment: 40 sessions, 1 year, 1 session = 2 hours 2. Length of treatment: 40 sessions, 1 year, 1 session = 2 and half hours 3. Length of treatment: 40 sessions, 1 year	The images were useful in holding extreme feelings that could not be felt or spoken about until enough trust had been built up between group members. They were also containers for paradoxes.
(Schaverien, 1994)	Clinical case report UK Inpatient treatment	Number of participants: 1 F Age: not specified Diagnosis: AN	Description of the clinical case without research methodology	Art Therapy – the role of the picture as a transactional object	Length of treatment: short-term therapy Individual sessions.	The patient created an "embodied image" and let the therapist slowly get into her world through the painting. This was the first step for the patient to admit how she felt. The picture was the medium through which a transaction could begin to take place between the patient and the therapist
(Steinbauer et al., 1999)	Case study Austria University Clinic of Psychiatry, Graz Inpatient and outpatient treatment	Number of participants: 1 F, Age: 20yo Diagnosis: BN	Depression Inventory – Beck Questionnaire on eating habits – Pudel et al. Analysis of patient's paintings	Art Therapy: Integrative Painting Therapy Family therapy, individual therapy (behavioural and psychodynamic approach), pharmacotherapy	Length of treatment: 3 months Frequency: 2 sessions per week Individual session: Painting in a group	Result in Depression Inventory – Beck and Questionnaire on eating habits: reduction or disappearance of symptoms. The symptoms of vomiting were replaced by drawing and painting as a method of successful confrontation with the patient's feelings. Painting and drawing helped the patient to find a way to bring her hidden feelings to the awareness level and channel them. Improvement of self-confidence, finding her own identity.

(Thaler et al., 2017)	Quasi-experiment (without control group) Canada, Montreal Museum of Fine Arts (MMFA) Douglas University Institute‘s Eating Disorders Day Program	Sample of participants: 78 (76F, 2M), Age 18-60, ave.age 27,6yo Diagnosis: 23-AN-restrictive subtype, 22-AN binge/purge subtype, 13-BN, 19-OSFED,1-ARFID	Profile of Mood States - POMS-BI, Visual Analog Scale, Body Satisfaction Scale, Qualitative questionnaire regarding experience– thematic analysis	Art Therapy Individual psychotherapy Day program groups/Day hospital groups	Group sessions: a thematic guided tour of the museum’s collection or temporary exhibition, followed by supervised art therapy workshop – each patients created artwork, facilitated group discussion – reflection, thoughts about the process	The Composed-Anxious subscale of the POMS, such that patients reported feeling more composed at Time 2 than at Time 1 ($t(69) = -2.438$, $p = 0.017$). Between the beginning and end of the museum visit, participants felt a global reduction in anxiety. Thematic analysis – 1. program as a whole as a pleasing and enriching experience 2. art therapy as a means for self-expression, self-regulating and creativity 3. museum visit as an opportunity for discovery and learning 4. personal and professional qualities of the personnel
(Wolf et al., 1986)	Clinical case report USA, Vermont Inpatient setting, psychiatric unit	Number of participants: 4 F Age: 16-21yo Diagnosis: AN Comorbidities: depression, suicidal tendencies	Description of the clinical cases without research methodology	Art Therapy Multimodal treatment	Individual sessions: non structured tasks, free expression through art.	Identified issues through artwork and patients’ associations to the artwork: distorted, deformed self; the inner sense of emptiness and loneliness; and the anxiety over control and boundaries. Patients expressed a wish to communicate to other staff at the clinic using their artwork: patients may use art as a bridge to verbal therapies.
(Wood, 2000)	Clinical group reports UK Outpatient and inpatient setting	Participants: 8 F, 1 M Age: 20-30yo Diagnosis: AN, BN Comorbidities: substance misuse, self-harm	Clinical description of the group session without research methodology	Art Therapy Multidisciplinary team	Length of treatment: period of 15 months Frequency: 1 session per week -1 session= 1 hour long, later prolonged: 1 session= 1,5 hours long Group sessions: experimenting with art materials, drawing and painting(individually/group), collage making	Patients reflected upon a process of group painting: sharing a sheet of paper was a terrifying prospect for group members at the beginning of the group sessions. The process of group painting in the final session contrasted dramatically with the beginning. The therapist recognised certain patterns in art making: splits, words as pictures.

Abbrevations used: BAI - Beck Anxiety Inventory, BDI - Beck Depression Inventory, BMI – Body Mass Index, CRT – Cognitive Remediation Therapy, CY-BOCS - Children's Yale-Brown Obsessive Compulsive Scale, EDE -Eating Disorder Examination, FBT – Family Based Treatment, HRQ - Helping Relationship Questionnaire, K-SADS-PL- Kiddie-Sads-Present and Lifetime Version, RCFT - Rey-Osterrieth Complex Figure, TSPE - Therapy Suitability and Patient Expectancy, WASI - Wechsler Abbreviated Scale of Intelligence, WCST - Wisconsin Card Sort Task, YBC – ED - Yale-Brown-Cornell Eating Disorder Scale

Appendix D

Author, year	Study design, country and setting	Population	Methodology	Type of AsTs, other therapeutic interventions	Characteristics of arts-based interventions	Therapeutic outcomes related to AsTs
(Krueger & Schofield, 1986)	Clinical case report USA, Texas Disorders Treatment Program, Spring Shadows Glen Hospital, Houston In-patient and out-patient - private residential psychiatric hospital	Participants: young adults (18-30) and adolescents (12-17) Diagnosis: EDs not specified Comorbidities: -	-	**D/MT** – psychodynamically oriented Daily meetings with psychiatrist	Length of treatment: 8-11 weeks treatment Frequency:2 sessions per week session: Sequence of phases; >beginning relaxation and centering (deep muscle relaxation, breathing exercises, guided imagery, and centering exercises) >mirroring phase (physical mirroring) >facing the mirror >projective drawing (drawing in the end of the session to express patient's experience of the session) >videotape feedback	No specific outcomes. The patient was enabled to see herself from a different perspective (through video). She became aware of "what she was doing to herself".
(Savidaki et al., 2020)	Mixed design using both qualitative and quantitative data, with control group Spain. Private day clinic	Participants: 14 F (7 in D/MT group), age 14-32, high school and university students Diagnosis: EDs – 4 EDNOS, 3 AN Comorbidities: -	Multidimensional Body Self Relations Questionnaire (MBSRQ) and the Toronto Alexithymia Scale (TAS-20) at the beginning and at the end of the intervention. Qualitative analysis of reflective diaries (D/MT group)	**D/MT** **-** Chace's approach, guided imagery-Reddemann Control group – usual treatment plan of the clinic	Length of treatment: 14 weeks period Frequency: 12 x 90 min sessions Group session: 6 parts session structure >Check in (10 mins) >Warm-up (10 mins) >Guided imagery (20 mins) >Exploration in movement (30 mins) >Writing (reflective diaries) (10 mins) >Check out (10 mins) Various focus according to phase: session 1-4; creating safety / trust, and connection to self. Session 5-10; creating group cohesion, exploring movement interactions in pairs.	Pre- and post-intervention, the participants of the DMT group according to the measures of MBSRQ <u>Improved significantly in</u> Body Areas Satisfaction (effect size: 0.95) Appearance Evaluation (effect size: 1.10), <u>Decreased significantly in</u> Appearance Orientation (effect size: 1.30) Overweight Preoccupation was observed (effect size: 0.75), The control group did not show significant changes in any of the subscales. Neither the DMT group nor the control group improved significantly in the alexithymia scores.

					Session 11 and 12; preparation for closure Objected used: elastics, different forms of fabrics, small hard (tennis) balls and soft balls, balloons, ribbons, scarves, paper and crayons.	Qualitative analysis showed outcomes were that D/MT offered Valuable insights into the participants' processes of DMT intervention positively. Some improvements in their mood states An increase in their self-awareness. Appreciation of the relationship with the group and the therapist
(Padrão & Coimbra, 2011)	Clinical group report Portugal Inpatient setting	Participants: 7 F, aged 15-56 Diagnosis: AN Comorbidities: -	Therapist's non-structured movement observation, Patients' verbalisations about their experience at the end of the session Diagnostic assessment through semi-structured interviews, outcome determined by the consensual judgment of three professionals (2 psychiatrists,1 clinical psychologist)	**D/MT** -	Length of treatment: 6 months Frequency: 1 session per week – 75 min Group sessions: >Warm-up. >Body awareness techniques, >Guided or free thematic movement/expressive dance, >Warm-down. >Closure focused on verbalization and reflection about the movement experiences. Activities: stretching and relaxation exercises, listening to different music styles and then gradually integrated thematic and free movement Movement themes: Femininity, sexuality, childhood, good/unpleasant bodily sensations/feelings, ''the disorder and me,'' autonomy, dependency, enmeshment, reliance, control, love, anger, and family	<u>Identified movement characteristics/ qualities of patients with AN</u>, >igid /restricted movement the truck / torso. >Use of light weight and peripheral movements. >Corporal splits between upper and lower torso. >Limited peripheral flow. <u>Identified experiential and semantic level of body experience;</u> >Ambivalent relationship with femininity and sexuality; avoidance of using curved, sensual movements. >The semantic association of childhood-happiness-perfect (lost) time in comments: 'My mother, my father and I were the perfect family. We didn't need anyone else'' (Ana, 19 years old). >Preference for the use of words indicating lightness such as; float, fly, freedom. fly, to describe good bodily sensations. >Patients' negative discourse with the terms of the disorder

(Oppikofer, 2012)	Clinical case report Switzerland	Participants: 1 F, 27yo Diagnosis: AN and BN Comorbidities: -	Description of the clinical case without research methodology	**D/MT** Authentic movement (AM)	Length of treatment: 30 sessions Frequency: - 20min of AM in each session Individual sessions: Deeper exploration of the self through movement, dreams, imagination	Identifying themes of the patient's psychopathology and therapeutic process Externalization of emotions through symbols and metaphors
(Kleinman, 2015)	Clinical case reports USA Outpatient clinic	Participants: F – not specified, 1 group of F Diagnosis: AN and BN	Description of the clinical case without research methodology	D/MT	Individual session: 1. Rhythmic synchrony, 2. Kinesthetic awareness 3. Kinesthetic empathy. Plus • Chacian circle • Moving with objects; balls, elastic bands • Imagery	Cognitive Markers of the Therapeutic Process are used to represent five stages of the therapeutic process, 1. exploration 2. discovery 3. acknowledgement, 4. connection 5. integration These markers give form to the therapeutic process and represent a frame of reference for what is occurring to see how DMT can be effective for ED's. Generic outcomes; >Learning how to reconnect to themselves >Acknowledgment of the whole self.
(Feldman, 2017)	Clinical group report UK Eating disorder clinic in a private hospital	Participants: group of F, aged 18-56 Diagnosis: EDs not specified	Relational phenomenological approach therapist's journal of experience, thematic analysis	**D/MT** Gestalt therapy Multidisciplinary treatment approach (nutritional, medical, psychological, experiental therapies)	Length of treatment: 19 sessions Frequency: 1 open session per week, 60 min long Open group sessions: • Verbal check-in • Warm up • Theme Development • Verbal check out	6 Distinct but interconnected themes identified through collected data: 1) Externalisation of aggression, 2) Freedom and release, 3) True Self, 4) Positive effect and support, 5) Creative play, 6) Body image and awareness Outcomes >The externalization of aggression through movement was vital in enabling the clients to experience the other themes >Positive effect and support in the group reinforced the need to be able to experience pleasure in order to recover >Most clients were unable to address body image directly; they used

						movement and creative play as expression and bypass resistance
(Rice et al., 1989)	2 Clinical case report Country not specified Setting not specified	Participants: F, 18yo, 23yo Diagnosis: AN	Description of the clinical cases without research methodology	D/MT Verbal psychotherapy weekly	Length of treatment: short term therapy: 3 sessions, long term therapy: 9 months Individual sessions: 3 stages: 1) What Body? Exploring sensory capacities, mirroring, self touch, sensing the inner world, body map, self care, rocking, body awareness 2) Who owns this body? Touch exercises, proximity exercises, safe space/bubble, dressing social/ cultural influences (using images and metaphors). Mothers body 3) What can my body do? relationship to self, relationship to others, movement repertoire, theme-centred exercises.	Short term therapy- focused on educational aspects of the body. The client expressed the breathing exercises were good support. Able to find good ways to move her body Long term therapy- outcomes were relapse and hospitalisation due to reconnecting with body and body awareness. But a return to therapy helped the client feel stronger and integrate and understand her weight gain.

Appendix E

Author, year	Study design, country and setting	Population	Methodology	Type of AsTs, other therapeutic interventions	Characteristics of arts-based interventions	Therapeutic outcomes related to AsTs
(Bailey, 2012)	Qualitative study, based on grounded theory/lived experience methodology USA	Number of participants:10 F Age: 18-65yo Diagnosis: 2 AN, 1 BN, 2 BN+EDNOS, 5 EDNOS	Grounded theory – interviews, open coding	Psychodrama	Not specified	8 predominant categories identified: experiences in the psychodrama, eating disorder specific topics, protagonist vs auxiliary or audience experiences, comparison of psychodrama to other therapies encountered, emotions/feelings generated during the experiences, therapist and treatment recommendations, challenges in recovery, and opportunities in recovery. Categories: Fear of Connection, Fear of emotional connection, Fear of body connection, Fear of connection to others, Need for safety in therapy. The participants reported: the experience helped them to make holistic connections, emotional, physical, and relational, that had previously been difficult to access due to their own lack of esteem, trust, and acceptance
(Callahan, 1989)	Clinical case reports USA, New York Outpatient treatment program	1. Number of participants: 1 F Age: 44yo Diagnosis: BN 2. Number of participants: 1 F Age: 35yo Diagnosis: 3. Number of participants: 1 F Diagnosis: 38yo 4. Number of participants: 1 F	Description of the clinical case without research methodology	Psychodrama Individual and group therapy, support groups	Group sessions: 1. Eating behaviour and the relationship to food, technique: The clock exercise 2. Body weight and body image, technique The mirror exercise 3. Intimacy issue, technique Self-presentation exercise 4. Self-experience and self-structure, technique Self-projection exercise	1. The patient was allowed to see her behaviour from a new perspective and talk to herself from a different role. 2. Through the psychodrama session, the patient got a very meaningful message for herself on a way to recovery. 3. Patient expressed relief at having vented her feelings during the psychodrama session. She was surprised to experience confidence during the play. Later, patient reported positive changes in her marriage related to the psychodrama session. 4. Experiencing psychodrama sessions helped her to get more involved in the treatment. The patient has often referred

		Age: 26yo Diagnosis: BN Comorbidities: drug abuse				back to the psychodrama session, in particular when she tried to understand what had precipitated a loss of abstinence.
(Jay, 1994)	Clinical case reports Country not specified Outpatient setting	Participants: slow open group Diagnosis: AN, BN	Clinical description of the group sessions without research methodology	Psychodrama Not specified	Length of treatment: long term treatment Frequency: 1 session per week, 1 session = 2 hours Group sessions: empty chairs technique, role reversal, mirroring	General outcomes: psychodrama can enable to express feelings in a more direct way, psychodrama can help the individual face the distress and teach coping skills. Psychodrama can enable to get understanding of the cognitive process that occurs during binges, patient can step outside the situation and observe her own behaviour objectively.
(Jefferies, 2000)	Clinical case reports UK	Number of participants: 2 F Diagnosis: AN, BN	Description of the clinical case without research methodology	Psychodrama	Group sessions: role reversal, role work, good and bad day technique, "I'll be tempted" technique, dysfunctional role identification	Psychodrama allowed patient to express feeling she felt in earlier situations in her life. By various techniques, she was able to share her feelings with the group and experience important situations of her life from new perspective. Psychodrama offered a new and more direct way of feeling and expressing patient's emotions.
(Levens, 1994)	Clinical case report UK Atkinson Morley's Hospital, London	Number of participants: 1 F Age: 22yo Diagnosis: AN	Description of the clinical case without research methodology	Psychodrama Complex treatment program	Group session: role play, role reversal, return in time, adding a grandmother role, taking on roles, the viewer's final reflection towards the patient	Patient better understood dynamics and relationships within her family. Psychodrama also helped the patient to understand the behaviour she needs to maintain.
(Meillo, 1991)	Clinical case report Netherlands Psychotherapeutic community for disturbed adolescents	Number of participants: 1 F Age: 19yo Diagnosis: AN Comorbidities: previous suicidal attempt	Description of the clinical case without research methodology	Psychodrama Individual therapy, group psychotherapy (group dynamic methods), sociotherapy	Length of treatment: 18 months Frequency: Group sessions: **6 "full-circle psychodramas"** Psychodrama I. Distance and proximity Psychodrama II. Not eating, eating and woming	Psychodrama awoke more feelings, both in the protagonist and in the other group members. Psychodrama offered the possibility of an acutely felt, relived insight. The harrowing nature of the scenes resulted in group members starting to offer a corrective emotional experience instead of turning away from the patient as they did before.

					Psychodrama III. Family ties Psychodrama IV. Excesses and shame Psychodrama V. The ideal body Psychodrama VI. Home and the clinic	Psychodrama allowed to explore intrapsychic relationships with the family, without strengthening the real relationships. Patient was enabled to see her own behaviour from a distance. Patient experienced both sides (of herself through psychodrama) and realise how the interaction takes away her energy.
(Jennings, 1994)	Clinical case report UK Infertility clinic Outpatient setting	Number of participants: 1 F Diagnosis: AN Comorbidities: depression	Description of the clinical case without research methodology	Dramatherapy	Individual sessions: drawing of patient's native village and her home. Building native village with variety of toys, creation of theatre of the past/present/future through pictures, models, stories in which she was director and performer.	It was important for the patient to restore previously ingrained past and symbolically embark on a journey to establish new roots in her married family. Already in the sixth session, patient felt much better, and in the following sessions, her condition improved and strengthened. Eventually, she managed to conceive and gave birth to a healthy baby.
(Pellicciari et al., 2013)	Case series Italy Bologna Eating Disorder Centre	Number of participants: 15- 14 F, 1 M Age: 14-19yo, average: 15.3 +-1.4 Diagnosis: AN	Toronto Alexithymia Scale (TAS-20) SAFA test	Dramatherapy and psychodrama principles Medical and nutritional support, individual psychotherapy, interviews with family, group psychotherapy, and recreational and occupational therapy sessions	Length of treatment: 6-15 weeks-patient attended 10 sessions in average Frequency: 1 session per week Group sessions: **Warm-up** (30 minutes): exercises and group games, participants' interpretations of different types of characters; ''Theatre of the Oppressed'' exercises and bioenergetic **Choice of a character:** reflection upon similarities to patient and chosen character **Development of chosen character:** exercises for the development of the patient's chosen character **Performance:** possibly with an audience	A statistically significant improvement was found in the items investigating teamwork ($p < 0.001$) and spontaneity ($p < 0.01$). TAS-20 showed a significant reduction ($p < 0.05$) at the end of the cycle (53 – 15, borderline range) if compared to the first administration (62 – 14, alexithymic range). SAFA showed an improvement in obsessive thoughts, mood, and in particular a reduction of anhedony. 93% of the participants revealed satisfaction in taking part in the cycle of workshops due to various reasons. 71% of the patients reported that the positive feelings experienced during the workshops were accessible to them during their everyday life.

(Wurr & Pope-Carter, 1998)	Case series UK Child and Adolescent Service, Bradford	Number of participants: 5: 4 F, 1 M Age: 14-17yo Diagnosis: 4 AN, 1 BN Comorbidities: substance misuse, self-harming behaviour, 2 history of abuse	Modified content analysis approach One year later: questionnaires, analysis of their scale of task and level of socialization Data based on author's reflection of the therapeutic meetings	Dramatherapy Family therapy Metaphor of journey	Length of treatment: period of 14 weeks Frequency: 1 sessions per week, 11 sessions in total 1 session = 90min Group sessions: warm-up exercises, group roles, individual stories, use of guided fantasy to develop the journey metaphor, real-life problems tackled using role play, the magic shop- imagery buying and selling personal qualities, beginnings and endings, writing based exercises, small and large-scale sculpture, role play and improvisation	No quantitative data were found based on questionnaires, only sketchy data on the actual development of patients. All of the members of the group seemed more comfortable in the DT exercises by the end of the group. Authors believe in the positive effects of group therapy, and they perceived a degree of increased comfort patients' body perception. They defined categories important for this type of intervention: Externalization of individual thought, building obstacles, building terrain, current real situation, problem solving, interaction, challenges and support.
(Young, 1994)	Clinical group reports	Number of participants: 6 F Age: 20-23yo Diagnosis: BN Comorbidities: 3-childhood sexual abuse	Clinical description of the group case without research methodology	Dramatherapy – embodied-projection-role paradigm	Length of treatment: 20 weeks Group sessions: warm ups (voice projection exercises, breathing exercises), mirroring, doubling, role-reversal, bubble exercise, sculpture exercise - the group as a human body, the clock exercise	At the end of the group, the severity of ED was reduced for all members. 3 members had no more binge-purge eating patterns. Members of a group reported personal changes in addition to a decreased severity or cessation of EDs. Patients reported the following changes: daring to begin a new relationship, being able to glance in the mirrors, taking big coats off in public, buying clothes for themselves. Members felt less guilty and appeared able to express feelings more directly, both inside and outside a group.

Appendix F

Author, year	Study design, country and setting	Population	Methodology	Type of AsTs, other therapeutic interventions	Characteristics of arts-based interventions	Therapeutic outcomes related to AsTs
(Hinz & Ragsdell, 1990)	Clinical group report USA University counselling centre	Number of participants: 9 F Age: 20-26 (mean=22,4) Diagnosis: BN	Description of the clinical case without research methodology	Art therapy project	Group sessions - 3 phases: 1. making a mask 2. reading a series of questions into the video camera while holding the mask in front of the face 3. Having members respond to the videotaped presentation of themselves Materials: coloured tissue paper, poster board, construction paper, gold and silver coloured aluminium foil, yarn, feathers, ribbon, glitter, markers, scissors, and glue	8 members constructed masks 5 members completed videotaping 3 members responded to the taped questions in group meetings Topic of real and false self was often discussed through the course of sessions. The need of hiding real selves and please others emerged through discussion.
(Porter & Waisberg, 1992)	Quasi-experiment (without control group) Canada	Number of participants: 9 F Age: 15-30 (mean 21,6) Diagnosis: AN	8 scales of Eating Disorder Inventory Two clinical scales of the Eysenck Personality Inventory Self-Control Scale of the Reid-Ware Multidimensional Internal-External Scale	Expressive therapies: AT, D/MT, MT, dramatherapy - skill-focused activities - fitness/recreation program	Length of treatment: 5 weekday treatment Frequency: Individual session: methods not specified.	- significant overall change on the EDI ($F(8, 1) = 1179.39$, $p < .05$), with significant pre-to post-treatment decreases on seven of the eight EDI scales: Drive for Thinness, Bulimia, Body Dissatisfaction, Ineffectiveness, Perfectionism, Interoceptive Awareness, and Maturity Fears. - significant overall change on the Eysenck Personality Inventory ($F(2, 7) = 4.91$, $p < .05$), with a significant pre- to post-treatment increase in Extraversion and decrease in Neuroticism - Significant pre- to post-treatment decreases were also found on the Self Control scale of the Reid-Ware Multidimensional I-E Scale, indicating a shift towards a more internal locus of self-control

(Franks & Fraenkel, 1991)	2 Clinical case reports USA	Participants: 1. 1 F 2. 1 F Diagnosis: 1. ED 2. AN	Description of the clinical case without research methodology	Fairy tales and D/MT	Length of session: 1 hour and 45 min Group sessions: elements of dance and movement related to affect, diaphragmatic breathing, journal writing, kinesthetic sensing and witnessing, hunger journeys. guided visualizations 1. painting a picture based on the fairy tale, writing down dialogue between painted characters 2. experimenting with breath, shape and body boundary while working with fairy tale story	1. acknowledgement of emotions – anger and sadness through seminars, confrontation of patient's nutritionist about not having any sugar in her diet, included it in her food plan and lost seven pounds 2. an understanding of symbolic meanings in fairy tales through dance/movement experience, the patient maintained direct eye contact and regained her menses, the patient was able to re-engage her creative energy
(Diamond-Raab & Orrell-Valente, 2002)	2 Clinical case reports USA	**1.** Participants: 1 F Age: 12yo Diagnosis: AN, Comorbidities: major depressive disorder **2.** Participants: 1 F Age: 16yo Diagnosis: BN Comorbidities: depressed mood, and escalating self-injurious behaviour	Description of the clinical case without research methodology	AT, Psychodrama **1.** Journaling, family therapy **2.** Family therapy	**1.** Group sessions: drawing self-portrait, family painting, psychodrama, practise of assertiveness **2.** Frequency: Individual AT sessions 3 times per week, expressive group therapy – 4 times per week Collage making, psychodrama	1.By the end of the treatment: Patient learned to recognize, acknowledge, and express her emotions. The patient was supported by the group to express her anger. She began to speak with a more mature tone of voice and was able to initiate and maintain several peer relationships. The patient was eating her meals without the need for nutritional replacements and achieved 95% ideal body weight. 2. Patient regained trust in the therapeutic process and identified the moment of the beginning of ED behaviour. As she began to express increasingly her internalized feelings, she experienced thoughts of self-harm less frequently and with less urgency. The urge to binge and purge decreased significantly. The patient achieved 100% ideal body weight.

(Naitove, 1986)	Clinical case report USA	Participant: 1 M Age: 16yo Diagnosis: AN, BN Comorbidities: severe endogenous depression, melancholia, suicidal ideation	Description of the clinical case without research methodology	Arts therapies: plastic art, drama, movement and poetry Multidisciplinary team: counsellor, psychiatrist, arts therapist pharmacotherapy	Length of treatment: 3 months Individual sessions: journaling, complete life-size outline drawing of poses he assumed to reflect a current mood (at the beginning, in the middle, at the end), Gesture drawings, Kinetic Family Drawing, Idealized Kinetic Family Drawing, drawing: "What I want to be doing ten years from now" Exercises to support each other's weight, exercise to mirror image of action, drama improvisation based on Transactional Analysis, mandalas	The Arts therapies approach enabled the team to learn a great deal about the psychodynamics particular to the patient's behaviours and it also enabled the patient to obtain some insights. It was an empowering approach since the patient always felt in control of what was revealed. The patient realized the possibility to express anger in a socially acceptable way. The patient revealed things involuntarily through art when not ready.
(Karvonen, 2015)	Clinical case report Finland Clinical setting	Number of participants: 1 F Age: 21yo Diagnosis: AN Comorbidities: severe depression and anxiety	Qualitative content analysis of video recordings	MT, body movements, dance	Length of treatment: 12 sessions Frequency: 1 session per week (1 session=45min) Individual sessions: body movements, body-based interventions, self-exploration techniques	Music, body movements and dance helped patients to gain greater self-esteem, express emotions and built a more positive body image. Change in patient's body image: she reflected and processed her experiences and identified and expressed emotions in a way which supported her discovery of a more positive body image.

Appendix G

MUSIC THERAPY INTERVENTIONS	DRAMATHERAPY/PSYCHODRAMA INTERVENTIONS	DANCE/MOVEMENT INVERVENTIONS	ART THERAPY INTERVENTIONS

• Active methods
• musical improvisation
  ○ in a group or in an individual setting
  ○ "free-flowing" improvisational music
  ○ playing with various music instruments, sounds, melodies and recorded music
  ○ role play (choosing an instrument
  ○ to represent the patient's mother)
• singing
• searching for the inner sound of the body
• musical games
• Receptive methods
• Bonny Method of Guided Imagery and Music (BMGIM)
• listening to songs, listening to music at group sessions or while eating
• self-listening technique: improvisational music of the therapist with the client was recorded and used for self-listening
• music-assisted relaxation
• talking about and sharing music with others, choosing and discussing familiar songs together
• lyrics analyses
• Compositional methods
• songwriting (in a group or individually)
• music composing
• spontaneous sound pictures
• hello and goodbye songs
• development of personalised playlist (continuum from depression to hopefulness based on iso principle)
	• techniques working with roles
	  ○ role play, improvisation role play
	  ○ role-reversal
	  ○ group roles
	• creation of theatre of the past/present/future
	  ○ use of pictures, models, stories
	  ○ patient in the role of director or performer
	• use of guided fantasy to develop the journey metaphor
	• voice projection exercises
	• breathing exercises
	• mirroring
	• doubling
	• building obstacles (using materials in the room) and getting over it
	• bubble exercise
	• sculpture exercise
	  ○ the group as a human body
	  ○ small and large-scale sculpture
	• clock exercise
	• the magic shop – imagery buying and selling personal qualities
	• Theatre of the Oppressed exercises
	• empty chairs technique
		• stretching and relaxation exercises, deep muscle relaxation,
		• thematic and free movement when listening to different music styles
		• breathing exercises
		• guided imagery
		• centring exercises
		• physical mirroring
		• reflective diaries
		• exploring movement interactions in pairs
		• Chacian circle
		• moving with objects (balls, elastic bands)
		• self-touch, sensing the inner world, touch exercises
		• body map, rocking
		• proximity exercises
		• safe space/bubble
		• dressing social/ cultural influences (using images and metaphors)
			• free expression through art, artmaking
			• drawing, painting
			• painting self-portrait
			• guided fantasy followed by image-making
			• blind drawing
			• body contour drawing
			• creation of collaborative art piece
			• activities with clay figures (arranging th
			with objects, creating configuration with figu
			clay modelling (kinetic family clay, sculptur
			• using imagery, metaphors and symbolism
			• therapeutic art book making
			• affirmation cards
			• mannequin as the foundation of the art-making
			• collage making, mandala making, origami
			• creating symbols
			• self-box, sand worlds
			• chromatic family line drawing
			• experimenting with art materials
			• passing images round for everyone to contribute