

# The Application of Art-Expressive Techniques among Children with Chronic Disease in the Field of Education and Rehabilitation

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## **Abstract**

*During the past two decades the integrative approach which includes art-expressive techniques to encourage awareness and social and emotional development has begun to develop more intensely in the field of applied education and rehabilitation sciences. Within the framework of childhood chronic diseases, the field of psychosocial oncology has particular significance for the expansion of professional competences and the development of interdisciplinary communication. The experiences from paediatric oncology show that facing a disease and understanding its state is very traumatic and stressful experience for the child. Therefore, the aim of this paper is to indicate the importance of the influence of art-expressive techniques through the application of different media as an integrative approach. The paper aims to highlight the significance of art-expressive techniques applied to children suffering from malignant diseases in facing the physical and emotional stress during hospitalization. The implementation of art-expressive techniques took place in the paediatric ward for haematology and oncology of the Clinic for Children's Diseases in Zagreb. The significance of the psychosocial support is emphasized through the application of children's stories, drawings and pictures which can help the child's emotional state. The results of the monitoring of the applied techniques indicated a positive effect on children who suffer pain and existential tension.*

**Key words:** *integrative approach; malignant diseases in childhood; psychosocial support; supportive and therapeutic interventions*

## Introduction

According to the *American Art Therapy Association - AATA* (2017) art-expressive therapy can be interpreted within psychotherapy and integrative professions which use art in various ways to avoid stress, illness or disability for the purpose of improving mental health. In treating mental health, art-therapy is used for reducing stress and negative psychological symptoms (Hussain, 2010). It is founded on the opinion that the creative process generated as artistic self-expression helps people to solve conflicts and problems, develop interpersonal skills, manage behavior, reduce stress, and increase of self-respect and self-awareness (AATA, 2017).

Rodriguez (2002) defines art-therapy as an entirely different way of understanding art, i.e. as an activity with a social tendency where treatment and communication take place through the mediation of body language, images, colors and sounds within the concept of therapy. Therefore, we can define it as expressive psychotherapy which uses the artistic process in order to improve social, mental and emotional functioning and enhance the feeling of wellbeing. Art enables recovery through nonverbal communication, exploration of feelings, self-revelation and catharsis (Malchiodi, 2011). In the context of the symbolic language or art-expressive therapy, we can associate it with the opinion of Maurice Merleau-Ponty that painting (drawing, word), along with thought, is linked with the inner art language of man through the expressive strength of his body and spirit which is spontaneously and symbolically reflected through lines, colors, characters. According to Prstačić (2003) „creativity can be interpreted as a process in which two or more existing elements, colors, forms, music notes, words or ideas in general, are placed in a relationship which is unexpected and can be observed as an aesthetic phenomenon” (p. 57). In line with that thought, the application of art-expressive models has a significant role in the supportive and complementary approach as the methods and techniques integrate knowledge from art, music, bibliotherapy, movement therapy and dance for the purpose of learning about and expressing self, self-awareness, developing ones positive sides and strong points, reducing negative and traumatic states, i.e. attaining socio-psycho-physical balance which enables a higher quality life.

The holistic approach to art-expressive therapy affects the physical, emotional and energy release of tension. It has an effect on relaxation and stimulates research of the self, enabling the attainment of psychophysical balance, energy flow and a sense of wellbeing. Art-expressive therapy is further described through the concepts “complementary” and “alternative” and is sometimes used when referring to nontraditional methods of diagnosis, prevention or treatment of chronic illnesses such as cancer or symptoms of cancer (*American Cancer Society*, 2012).

In describing the notion of art-therapy, Škrbina (2013) refers to it as a form of non-verbal expression of thought and feeling. It is based on the idea that through various media from the area of art the creative process treats and improves the quality of life through play therapy, creative training, art therapy and expressive therapy. In the

context of psychotherapy, counselling, rehabilitation and medicine, Malchiodi (2015) relates the notion of expression to the notion of art-therapy defined as art, music, drama, dance/movement, bibliotherapy and play/playing with sand. Therapy through the “expressive arts” uses such media in order to improve individual growth and development of man, i.e. contributes to lowering anxiety and stress, improvement of self-awareness and self-respect, strengthening relationships, regulating behavior, and improving social skills. On that ground, it is important to consider the importance of interdisciplinary approaches in the broad area of art-expressive therapies.

The results of the research conducted by Rowe et al. (2017) on the influence of art-expressive therapy program on the mental health of refugees established a general reduction of anxiety, however, symptoms of depression slightly increased even though the results indicating that were not statistically significant. Clinicians explained such an occurrence in the context of common reactions in the initial phases of applying art-expressive therapy. At that point, it is expected that a temporary increase of depression symptoms is expressed considering the participants are just starting to “open up” and analyzing their traumas. Therefore, the authors emphasize that it is necessary to carry out treatments and monitor the effects of art-expressive therapies over a longer period of time in order to more accurately identify the needs in the implementation of particular methods and assess their effects. Prstačić et al. (2013) state that drawings, art template forms, works of art and other can be applied as complementary diagnostic, educational and therapeutic approaches in various professional areas such as in psychology, neuropsychology, pedagogy, pedopsychiatry, psychiatry and art therapies.

## **Art-expressive therapies in the area of education and rehabilitation**

Since the end of the last century and the beginning of this century, professionals from various disciplines have been studying expressive therapies through dance, music, drama, story-telling, drawing, art-expression and others and have come to recognize the value of complementary approaches to contemporary diagnostic, education and rehabilitation and therapeutic areas. The relationship between science and art within the holistic framework is viewed as discovery and support to the creative and developmental potential of man (Prstačić, 2005). In education and rehabilitation sciences, the last few decades saw great achievement in the use of new techniques as complementary support methods. Prstačić et al. (2002) note that more intensive involvement of mental health professionals in multidisciplinary treatments of oncology patients began in the 1970s. This resulted in a new subspecialty, interdisciplinary and applied scientific area known as psycho-oncology, i.e. psychosocial oncology. In the broader framework of education and rehabilitation sciences, the area of psychosocial oncology is explained as a scientific and applied discipline aimed at studying psychological, social and behavioral aspects in the treatment of oncology patients. Accordingly, the areas of research within this discipline are aimed at emotional reactions of patients, of their family, of medical staff

and on investigating psychobiological dimensions, i.e. the psychological, behavioral and social factors that can affect the quality of life.

Education and rehabilitation sciences operate and develop in agreement with eclectic models as integrative, pluralistic approaches. Such models derive from the activities of numerous scientific disciplines. Within the framework of eclectic integrative approaches, they aim to integrate common elements of various theories, and within the framework of pluralistic approaches they identify theories which are particularly applicable in working with certain populations (Žižak, 2010). Therefore, in joining elements of various theories, the creation of something new is enabled and a synergy of theories (medical, psychological, sociological, education and rehabilitation ...) and effective practices from the theoretical aspects is created. The foundation for such a professional philosophy together with the aims of professional activities, as explained by Žižak (2010), using Brill's model can be found in connection with theories of human nature, psychophysical development and changes in man in the form of intervention methods and techniques. Work principles pertain to agreed, standardized guidelines according to which professionals abide in their everyday work in order for their work to be considered professional. Methods, on the other hand, as sets of procedures through which theoretical aspects, i.e. concepts are applied can be used to target aspects of practical work (e.g. creative therapy). In that sense, "drawings and various forms of individualized art expression can be applied as complementary approaches (methods) within the framework of various areas of education, diagnostics and therapy (*psychotherapy, sophrology, pedagogy, clinical psychology, rehabilitation education, art-expressive psychotherapy...*)" (Prstačić et al., 2013, p. 93).

One of the eclectic models is the psychosocial model "which places focus on the significance of the environment for the development of an individual's personal identity" (Žižak, 2010, p. 48). Within the framework of diagnostics, education and rehabilitation, the application of supportive art-expressive therapies is important in the assessment of the entire biopsychosocial structure and is viewed in the correlation with biomedical science and the humanities, biology, sociology and other sciences and arts, as well as in the area of psychosocial oncology (Prstačić & Sabol, 2006). Along with the complex diagnostic procedure and conventional methods of treatment, the psychosocial model implies understanding the problems and difficulties of a person which derive from the illness and treatment and assistance for children and families. It integrates what is happening in an individual's inner world and what makes up an individual's external world. Within such a broad area, science views human activity regarding man as the need to enhance scientific areas with new forms of interdisciplinary communication. Therefore, the foundations of the psychosocial model stem from psychoanalytic theory and theories of the family system, psychosocial development and communication (Žižak, 2010).

With the development of medicine and the increase of the number of theories regarding a phenomenon from the medical point of view, medical and mental-health

models developed within multidisciplinary approaches to treatment and rehabilitation. Closely related, the focus of work of such models is founded on spiritual and mental processes only to be followed by the biological processes (Hollin et al., 1995, according to Žižak, 2010). Along with professionals in medical areas, the model has also been developed by mental-health professionals which is why it is referred to as the mental-health model (Žižak, 2010). The study of the development of professional identity within scientific disciplines, as well as the importance of interdisciplinary approaches should be viewed in relationship with the development of the philosophy of science, i.e. with questions which lead to new scientific knowledge and research possibilities.

Within the areas of diagnostics, education, rehabilitation and therapy of children and adults with malignant diseases, interdisciplinarity for the purpose of associating various professional areas is important. Accordingly, the area of psychosocial oncology within education and rehabilitation sciences represents a significant move forward in the spread of professional competences and development of interdisciplinary communication. Since 1993, in Croatia, prof. Prstačić from the Faculty of Education and Rehabilitation Sciences has led a series of scientific research and other projects within which research was carried out (e.g. Kudek Mirošević, 2008; Martinec, 2008; Miholić, 2012; Pivac, 2013 et al.) on the complementary support therapies and development of life potentials of adults and children. The research projects were, among other, aimed at the application of methods of clinical evaluation in the area of pediatric and adult oncology of the Department of Motoric Disorders, Chronic Diseases and Art Therapies, University of Zagreb, Faculty of Education and Rehabilitation Sciences, in cooperation with clinics in Croatia and abroad. The results showed that complementary support-therapy programs and the application of art-expressive techniques can affect coping with illness mechanism which can lead to changes in psycho-neuro-immune interpretation (Prstačić et al., 2004). That points to the significance of applying art-expressive techniques and support-therapy treatments when offering support to a child and the family during the diagnostic period and during other therapy procedures.

## **The influence of art-expressive therapies on children with chronic disease**

From the perspective of the holistic approach to patients with malignant diseases, creative expression creates great potential for solving their mental, social, physical and spiritual issues related to their present state (Milutinović et al., 2017). The diagnosed malignant disease in childhood and adolescence means lengthy and often extreme emotional situations as the child or adolescent is in a situation where the physical, social, emotional and cognitive development is threatened (Kudek Mirošević, 2013). The effect of stress on depression, its role in initiating subsequent phases of the illness and factors which mediate in the stress-depression relationship are increasingly becoming subjects of research in psychiatry and psychology (Orzechowska et al., 2013). As a complementary supportive approach, the application of art-expressive therapies helps

children cope with negative situations, disability and trauma. In conversations with children regarding their drawings or paintings, therapists can create opportunities necessary for dealing with central issues that affect young patients. However, children are by nature creative and it is generally easier for them to draw a picture than directly answer questions. Through rehabilitation, education and communication, art-expressive therapies help a child release and express negative feelings which are difficult to cope with and which a child cannot or does not know how to solve in a different manner. In addition to that, art-expressive techniques positively affect functioning, mood, awareness and behavior. This is particularly observable among children with difficulties in the autistic spectrum, difficulties with speech, attention deficit disorders, PTSD, disorders in behavior or children with other mental and health difficulties.

Art-expressive therapies are applied to diverse populations of children including those with psychiatric, behavioral and medical disorders (Malchiodi, 2012). Accordingly, they can be applied to children with numerous difficulties, including an experience of physical or mental trauma in childhood, death of a family member or friend, phobias or emotional issues such as fear of abandonment, treatment of mental disorders such as schizophrenia or depression, learning difficulties and improvement of cognitive ability, behavioral problem solving, understanding and coping with a developmental disorder (e.g. physical disability), and coping with challenges brought on by serious diseases such as cancer. Therefore, art-expressive therapies help people with trauma bypass some difficulties which are characteristic of traditional, verbal psychodynamic psychotherapy. Emphasis is placed on expression which enables awareness and creation of personal images and metaphors which emerge in the therapeutic process during seances (Gantt & Tripp, 2016).

It is very difficult for a child to accept illness, separation from the mother, family and peers. A child accepts treatment with difficulty or even rejects it. A child's psychological reactions to such reality is frequently manifested through anxiety, fear, changes in behavior, feeling of being responsible for the illness and the state a child is in. In addition to pain, a child frequently experiences anxiety relating to illness which has taken over thoughts and physical integrity. For instance, in malignant diseases of the central nervous system, intellectual deficits can occur, decrease of spatial memory, oculomotor coordination, fine motor skills and calculation (Prstačić, 2003). Other side-effects emerge in the form of negative emotions, nightmares about the disease, misconceptions, pessimism about the future, development of negative myths and "stories" about the disease, changes in habits and withdrawal. At that point, a child is reluctant to verbalize. In that context, the main aim in applying art-expressive therapies to hospitalized children is therapeutic support with the application of various psychotherapy procedures during hospitalization.

Research has shown that art-expressive therapy is successfully used in order for children to learn to communicate appropriately, improve concentration, behavior and develop close relationships. Treatment can be aimed at various problem areas

such as family-child relationships, separation and various forms of existential tension: interpersonal relationships, mood disorders, feeling of inferiority and guilt, anxiety, depression, emotional stress, alteration of self-awareness (Failo et al., 2018). Establishing trust with a child during hospitalization is of great importance because of the anxiety a child feels as a result of detachment from family and familiar environment. Therefore, therapeutic communication can implement body symbolization, drawings, color symbolization, pictures, application of rhythm and sound.

Being angry or hurt is not always easy to describe with words, particularly for a child. However, a child can translate these emotions into drawings, stories, songs or dance, and ease up and more openly express feelings and thoughts in order to establish a starting point for conversation. Such psychotherapeutic approaches also enable children to increase their self-confidence, self-image and trust. That is the path to be taken toward establishing dialogue about situations which are difficult to cope with or solve and share with others.

Considering present-day medicine has advanced in treatment of malignant diseases among adults and children, their treatment represents a diagnostic and therapeutic challenge. The advancement of therapies in treating cancer and the number of supportive therapies has greatly improved the degree of survival of children and adolescents with cancer (Lee, 2018). A study carried out at Mayo clinic on patients with hematologic cancer highlights that intervention with art-expressive methods significantly affected the life of hospitalized cancer patients in the sense of mood, anxiety and perception of pain (Saw et al., 2018). When referring to malignant tumors in childhood, the term "solid tumor" is used in order to differentiate between the generalized form of malignant blood tumors such as leukemia from other childhood tumors. Solid tumors, leukemia and lymphoma are diseases related to the concept of "cancer". Tumors in childhood have a tendency to spread faster than at the adult age as a child's organism grows faster. Children are then faced with potential stressors including physical integrity, frequent invasive procedures during treatment which imply various somatic side-effects along with significant changes in physical appearance. Psychological effects among children comprise a spectrum of negative feelings of which the most frequent are fear, anxiety, depression, anger, timidity and irritability. In addition to that, there is separation from peers and changes related to social and educational activities. All of the mentioned infringes on the pre-existing quality of a child's life. Various approaches which view paradigms of positive adaptation draw attention to the presence of a child's defense mechanism and defense attitude to avoid coping and the desire for socialization (Phipps, 2007; Rokach, 2016).

In the interdisciplinary area of psycho-social oncology based on classification and categorization of coping strategies for the prevention of stressful states and facing patients with malignant diseases, the coping mechanisms can be defined through direct observation of an individual. Therefore, over the last few decades, the art-expressive therapies have been gaining importance in the area of psycho-social oncology

(Svensk et al., 2009). In the interdisciplinary area of psycho-social oncology as one of the disciplines of education and rehabilitation sciences, one of the problem areas is understanding the psychodynamics of the child – illness – environment relationship within the framework of the standard biopsychosocial approach during complex treatments and rehabilitation of children with malignant diseases. In addition to focusing on the psychological effects of the disease, physical changes and self-perception, the methods and techniques of art-expressive therapies can be directed not only to the child but parents and family considering children with malignant diseases are faced with the way their parents and siblings react to the illness, the newly-emerged situation, hospitalization and treatment.

Between the age of three and fourteen, a child is very sensitive to pain, illness and any experience which endangers the wholeness of the body. Due to that, regressive behavior of neurotic symptoms can develop. Malchiodi (2015) describes childhood trauma as an experience which creates a permanent, significant psychosocial and somatic influence on the child through feelings of confusion and helplessness together with lack of trust in the environment. The most frequent defense reaction to trauma due to illness or pain is regressive behavior, which is manifested in greater instability of mood, helplessness, passivity and other. Exposure to traumatic events in childhood are related to a broad spectrum of psychosocial and additional developmental difficulties in children where emotional dysregulation is a key characteristic which can further increase the risk (Dvir et al., 2014). According to Simons et al. (2010), abiding by the treatment protocol depends on the illness factor, family support, doctor-patient-therapist relationship, motivation and individual factors and the perception of and trust in treatment. A changed body image and possibility of spread of the malignant process lead to development of a negative self-image and low self-evaluation of quality of life. Methods in art-expressive support therapy aim to influence the state of resistance of the organism in order to establish adjustment and coping with maximum possibility of returning to the level of physiological balance. Although additional assessment of the application of art-expressive therapy methods in this interdisciplinary area are necessary, there are results in the Republic of Croatia which indicate that art-expressive therapies can reduce emotional and behavioral issues, lower existential tension in a child affected by illness and hospitalization and increase self-respect among this population of children and adolescents (Kudek Mirošević, 2010; 2013; Kudek Mirošević et al., 2011; Miholić, Prstačić, & Nikolić, 2013; Miholić, Prstačić, & Martinec, 2013).

The absence of recent research on the influence of art-expressive therapies is not surprising. In reviewing the literature, it becomes apparent that the majority of medical research in that area was carried out ten or twenty years ago. Only a small number of the research conducted are of a quantitative nature which represents a potential problem as quantitative methods can offer stronger evidence on the use of art-expressive methods and techniques (Kelly et al., 2015). However, during the last two decades, we

find studies around the world on the influence of art-expressive methods as supportive approaches which were measured, and which yielded statistically significant results. These studies were conducted for the purpose of improving various symptoms among different age groups in addition to standard treatment measures (Slayton et al., 2010). Researchers around the world and in Croatia have recognized art-expressive (psycho) therapy as a special domain of psychoemotional and psychosocial support within the holistic approach founded on various orientations and techniques (Caprino et al., 2016; Knill et al., 2005; Prstačić et al., 2004), with the intention of better understanding a child's experience and as a therapeutic intervention (Stutey et al., 2016).

## **Art-expressive models of supportive-therapeutic interventions through the application of children's stories, drawings and pictures**

Various art-expressive therapeutic methods stimulate a child's interest and imagination. They are directed towards developing socio-emotional skills and offering emotional support in an environment where children engage in play and creative techniques. In such an environment, children can express and investigate their feelings and behaviors and express various ways in which they perceive themselves and others and develop new skills for coping with everyday stress situations in which they have found themselves. Today, those are integrative techniques which have developed from theoretical knowledge from various interdisciplinary sciences and through various media and enable a child to more freely express itself verbally, physically, emotionally and symbolically. These are creative visualization, dance, music, movement, dramatization, clay and plasticine, drawing and painting, sand, role play and storytelling. Considering that one of the basic characteristics of a child's expression is spontaneity through which one can express imagination without being pressured, by being in a safe environment a child can express and investigate its feelings and behaviors. Based on the results of scientific research (Miholić, & Martinec, 2013; Pandey et al., 2018) art-expressive therapies can be considered as a useful diagnostic and therapeutic approach in various problem situations in the area of physical, perceptive, cognitive, emotional and behavioral functioning.

From the release of spontaneity to emotional expression, literary games and story making have a very important role. Under the influence of literary games and stories a child can express wishes and interests but also fears and other feelings relating to circumstances such as hospitalization. These are games and stories which encourage a child to find meanings behind images and words. Their emotions can be expressed through storytelling, drawing, coloring... When using such therapeutic techniques details coming from a child such as a child projecting itself in the drawing or in the form of a human figure, are taken into consideration.

As the child's external world surrounding it changes under the circumstances of illness and newly emerged difficulties, psychotherapeutic approaches help in understanding

a child's inner world and help cope with difficult feelings and thoughts. Depending on the child's developmental level and the ability to understand complex problems it is facing (Kozłowski & Khan, 2011), the use of therapeutic purposes which implies story, text, sound, image or movement is called for. A child's creation of stories in which it identifies with illness or the state it is in can, in circumstances of hospitalization, be associated with identifying particular occurrences and objects surrounding the child, taking into consideration various characteristics, states and situations which enable easier perception of the environment and coping under hospital conditions and with the disease. The imagination of a child in storytelling or drawing helps express attitudes and feelings and owing to the one or more expressive modalities it is easier for children than verbalization. Among younger children, stories, colors, drawings and art patterns have greater influence on distracting attention to treatment purposes and in relation to coping, while older children respond to characters in dramatizations of a children's literary work, indirect object, drama-therapy, music-therapy and bibliotherapy.

Bibliotherapy is also very useful for children with chronic diseases. It enables psychoeducation of children and specific techniques such as abdominal breathing, replacing negative thoughts with positive self-confidence and positive thinking (Buron, 2006). According to Bušljeta and Piskač (2018) bibliotherapy can be defined as the process of dynamic interaction between the personality of the reader and text under the leadership of an educated helper, while clinical bibliotherapy serves doctors and psychiatrists to help patients through specifically designed texts. The mentioned authors emphasize the importance of noticing particular cognitive and affective mental processes among characters and their association with emotions and aesthetic functions. In that context they mention the fairy tale as potentially suitable for art and music expression.

## Research Problem and Aim

Given the multidisciplinary approach within education and rehabilitation sciences and the area of psychosocial oncology, the research aims in complex treatment and rehabilitation of children with malignant diseases relate to the application of art-expressive methods and examination of the influence of supportive-therapeutic, education and rehabilitation procedures. Furthermore, research is conducted for the purpose of becoming acquainted with oneself and expressing oneself, self-awareness, development of positive and strong sides, reducing negative and traumatic states of a child, establishing socio-psychophysical balance which enables quality life and development of adequate mechanism of coping. The integrative, support approach to children with malignant diseases is important in the conceptualization of methodologies and techniques in the interdisciplinary area of education, rehabilitation and psychosocial oncology.

The unique approach to establishing strategies of coping with stress was developed by Dr. Mooli Lahad. Titled the *Integrative model of coping and resiliency BASIC Ph*, Lahad developed a model conceived in a unique way, through a child's creation of a

story. According to Lahad (2000; 2013) *BASIC Ph* is a multimodal concept of coping with stress during psychosocial support which comprises elements of other theoretical understandings and therapeutic models (e.g. Maslow on the self-realization and self-articulation, Erikson on the hypnosis and guided imagination, Franks on logotherapy, Rogers on client-centered therapy and self-realization, Jung on archetypal images and analytical psychology and other interpretations (Table 1).

Table 1  
*Integrative model of coping and resiliency BASIC Ph*

„Self“ Value	Emotions	Role-Others Organisation	Intuition, Humour	Reality, Knowledge	Action, Practical
<b>B</b>	<b>A</b>	<b>S</b>	<b>I</b>	<b>C</b>	<b>Ph</b>
<b>Belief,</b> Core Values	<b>Affect,</b> Feelings or Emotions	<b>Social,</b> Relationships within a Social Context	<b>Imagination,</b> Coping with Trauma	<b>Cognitive,</b> Coping style utilizes a Problem Solving	<b>Physiological,</b> Deal with Psychological Stress
Frankl Maslow	Freud Rogers	Erikson Adler	Jung De Bono	Lazarus Ellis	Pavlov Watson
Attitudes Skills Life-Span Value- Clarification Meaning	Listening Structure Emotions Ventilation Acceptance Expression	Social Role Play Skills. Assertiveness Role-Play Groups.	Creativity Order of Psychodrama („As-If“) Symbols Guided Fantasy	Information Games Preference Problem Solving. Self-Navigation Self-Talk	Activities Beliefs Exercise Relaxation Work Eating

The model is based on the approach which comprises drawing and *six-part story-telling*: the main character in the story, the main character’s task, source of help to the main character (if possible), obstacles in accomplishing the task, manner of confronting the obstacle and end or continuation of the story, i.e. expressing what happened afterwards. Such projection of a child’s story can be founded on elements of fairytale and myth. The process of storytelling and manner of telling it can reveal a child’s perception of reality. According to Bušljeta and Piskač (2018), the more dominant the aesthetic dimensions are in the story, the greater the transmission of a child’s emotional experience.

In the late 1980s, Costantino, Malgady and Rogler described methods of thematic appreciation tests (TAT) and other traditional projection tests. These are based on the psychodynamic assumption that an individual projects unconscious wishes and impulses which are generally suppressed to undefined means for stimulus. The visualization system processes nonverbal information coded cognitively in the form of an image while the verbal system processes abstract linguistic symbols. They have constructed a multicultural test of thematic appreciation – TEMAS (*Tell-Me-A-Story*) which comprises pictorial templates for the assessment of particular affective and cognitive functions and functions of personality. The pictures show familiar situations and through those pictures and imagination, i.e. symbolism, a child reconstructs a

specific event and feelings related to that event. The memory images which the pictorial templates prompt in a child's observation become symbols which integrate the object of their observation, emotional state and previously gained experience (Costantino, Litman, Waxman et al., 2014).

Numerous case studies show results on the effectiveness of art-expressive techniques on adolescents and small children with emotional and physical illnesses. Therefore, some of the potential methods in the application of art-expressive techniques which require research include lowering the anxiety level, improving recovery time, lowering hospitalization time, improving communication and social functions and pain control (American Cancer Society, 2012).

The aim of this paper is to indicate the importance of the influence of art-expressive techniques as an integrative approach, through the application of various media. Based on that, the hypothesis was set according to which the influence of a selected individualized support program for confronting a hospitalized child through the application of art-expressive techniques and symbolic expression of a child is reflected in changed values for the control variables.

## **Methods**

### ***Participants***

Research was conducted at the Department of oncology and hematology within the Children's Hospital Zagreb in the form of a case study. The sample comprised a total of 23 children and adolescents. Considering the application of art-expressive models and techniques described in this paper, the presented results refer to the sample of 16 participants in the 6-17 age group (M=12 and F=4). For the purpose of this research Protocols for the application of art-expressive techniques were prepared according to the diagnosis, clinical picture and children's needs. Accordingly, initial and final evaluations took place. The research abided by ethical aspects of research and participants' parents were informed about the research aim and purpose. Anonymity and data confidentiality were ensured. With the parents' consent on their child being involved in research, ethical principles of child voluntariness and possibility of withdrawing from the research were respected.

### ***Instrument and Procedure***

*The integrative model of coping and resiliency BASIC Ph* indicates that people have six potential characteristics or dimensions which are central to each individual. Owing to those dimensions, each person has the ability to cope with life changes. This instrument was selected based on the conclusion that a child uses effective effort to cope with illness for as long as it can endure the basic treatment routine. Furthermore, the starting point was that with frequent aggressive treatment of children with malignant diseases, the *Integrative model of coping and resiliency BASIC Ph* can help a child to cope with the disease offering encouragement in the new environment during hospitalization.

Accordingly, the BASIC Ph model which comprises six styles of coping was applied. The six styles of coping are: *Belief (B)* – as a means of coping, when a child turns to its belief system, it relies on its core values and with the help of adults who share the child's belief can strengthen this coping strategy. The influence of the dimension *Affect (A) – feelings (emotions)* becomes evident when a child is exposed to support methods that encourage emotional development of a child by modelling an open and sincere expression of feelings. The dimension *Social (S) – social interactions* is important when a child finds itself in a new, unfavorable social environment (e.g. under hospitalization conditions) which brings on insecurity, anxiety or fear of new social interactions. The child then seeks support which can reduce isolation, renew emotional safety and strengthen a child's sense of wellbeing in the environment it is in. *Imagination (I) – fantasy* is a dimension in which a child frequently turns to its creativity as a means of coping with trauma. Drawing a story can also help children with emotional problems who are not capable or cannot verbalize their emotions. Through drawing and non-verbal methods, they express their emotions such as sadness, happiness, anger, rage about their experiences. The dimension *Cognitive (C) – cognition, awareness, reality* becomes noticeable when a child uses coping strategies based on awareness (usually older children) using a direct approach to solving problems, anxiety and fear through sincere dialogue appropriate to a child's age. *Physiological (Ph) – the physiological dimension*, which is reflected through formal and informal physical activities.

The assessment of the coping mechanism was based on the child's storytelling in six parts. In accordance to the clinical picture, the participant told or drew a story based on six elements: the main character, the main character's task, source of help to the main character, obstacle in accomplishing the task, manner of coping with the obstacle and what happened next, i.e. the end or continuation of the story. This method gave insight into the dominant topics that the child talked about and based on notions used in the story evaluated, within the six dimensions *Basic Ph* model, and interpreted its individual profile of the coping mechanism.

Furthermore, according to the Protocol, in addition to the art-expressive technique based on the approach to drawing and six-part story-telling, the *TEMAS (Tell-Me-A-Story)* multicultural test of thematic appreciation (Costantino, Malgady, & Rogler, 2002) was applied. The TEMAS test is not standardized in the Republic of Croatia. However, considering the numerous clinical studies (Costantino, Dana, & Malgady, 2007) which confirm the efficiency of the test for clinical assessment of children and adolescence in the 5-18 age range, its application through narrative techniques using cards is of great importance in revealing fundamental emotional issues among children. The TEMAS test is designed for use with children and adolescence in the 5-18 age range. It comprises a longer version protocol with 23 cards or shorter version of 9 cards which show familiar and contemporary topics and situations for problem solving in addition to an objective scoring system. Each card shows positive and negative intrapersonal functions such as emotional conflict which demand solving through continuous

interaction of cognitive, affective and intrapersonal functions. Therefore, the images are related to concrete meanings and words to abstract thoughts. In the analysis of stories, emphasis is on the thematic structure, i.e. how the story is told followed by content. In the shorter version, used in this research, of the 9 cards, 4 were designated for participants of both gender and 5 were designed for a particular gender. The cards represent affective functions of the main character prior to and after solving a conflict. The child can spontaneously tell the story which referred to the relationships of the shown characters and their personalities in the environment and under events shown such as what the character/characters did before, what it will do, or what the character thinks or feels about solving the situation in which it is placed. Particular significance comes from the child's creation of the story in which the child identifies with the illness or state, with particular notions and objects that surround the child, getting into the spirit, state and situations of the character which enable easier experience of the environment and coping with hospitalization and illness.

### ***Method of Data Collection and Processing***

Methods of applied support art-expressive techniques are conceived with respect to the diagnosis, clinical picture and needs of the patient within the framework of the following problem areas: needs of the diseased child for protection from danger, from pain and loneliness, separation of the child from family during hospitalization, family – child relationship, interpersonal relationships, feelings of inferiority and guilt, anxiety depression, stress states of hospitalized children, neuropsychological and/or intellectual dysfunctions, mood disorders, evaluation and support of tendencies of creative expression (Prstačić & Sabol, 2006). According to the protocol and analysis of cases in the initial and final testing, the application of support art-expressive techniques (child's story, drawing, card) aimed to influence the development of adequate coping mechanisms under hospitalization conditions and the child's quality of life.

The source data for the 6 defined variables obtained through the *Basic Ph* instrument were analyzed using the robust discriminant analysis. Robust discriminant analysis enables confirmation of those variables which make a difference between entity groups and is based on the interpretation of correlations of original and discriminatory variables (Nikolić, 1997). Discriminatory analysis is most frequently used for theoretical and practical purposes as it has a higher level of accuracy and precision in the classification of objects than any other type of method. As such, it has an important role in multivariate statistics as a method of prediction and classification. One simple and popular discrimination method is Fisher's linear discriminant analysis. The Fisher discriminant function is a linear combination of the measured variables which is easy to interpret (Croux et al., 2008). The method is widely applied in social sciences (Mejovšek, 2013).

With the application of robust discriminant analysis, data were analyzed according to age (younger than 159 months-1 and older than 160 months to 212 months-2)

and gender (8 boys and 3 girls). The analysis of variance showed differences between arithmetic means of manifest variables between the two age groups (first group being children up to 159 months and children from 160 months and older) according to gender and 6 quantitative variables based on the applied *Basic Ph* instrument.

The *TEMAS* tests used and observed variable 7 Affective functions (which refer to the participants' mood depicted in the main character/characters by observing solving conflicts shown on the card and the solution to the conflict or ending of the conflict by the main character who feels: happy, sad, angry, fearful, neutral or ambivalent. It observed variable 9 Personality functions (presence of a highly uncontrollable behavior or solution for a particular visual card: high, moderate, partial, highly adaptive solution to the situation, wrong interpretation), and variables referring to 10 Cognitive functions (as a perceptive sample according to which an individual organizes information about him-herself, the environment and interpersonal relationships).

## Results and Discussion

Table 2 shows the differences between 5 participants of a younger age (7-11 years) and 6 participants of an older age (13-17 years). The dominant areas in particular variables were extracted. In both age groups (8 boys and 3 girls), the belief, affect, social environment, imagination, cognition, physiological reactions, physical ability and body experience were evaluated which enabled the assessment of personal manner of coping with stress during psychosocial support.

Table 2  
Results of the Robust discriminant analysis – according to age

Discriminant value	Centroids		Standard Deviation		DF1= 1 DF2= 9	F	Significance P
	younger age	older age	younger age	older age			
2.11	1.12	-0.93	1.03	1.14		9.87	0.01

Based on the robust discriminant analysis in the *Basic Ph* area, one discriminant function was extracted and the centroids were calculated for: the group of younger children (up to 159 months), the group of older children (from 160 months to 212 months), for the entire area of children coping with stress at the oncology department (Table 2). The discriminant value, standard deviation for both groups, the F (Fisher) test and error which occurs in rejecting the hypothesis (significance of differences) were also calculated. The discriminant function is significant at the  $p \leq 0,01$  level and the discriminant value is 2.11. The test of differences between centroids (F) is 9.8. Centroids or mean values at the discriminant function are removed from each other for 2.05 standard deviations. Children of an older age showed a significantly better average result after inspecting the dominant themes and conflicts each individual child approached (-0.93 standard deviations) with respect to younger children. The awareness of the imaginary symbolic representation such as using speech and drawing and storytelling in the process of problem solving emerges at a very early stage of a

child's development (Kudek Mirošević, 2008). In that context, an older child created a story according to recollection of a concrete situation which is dear to him or her or which he or she would experience again.

Table 3

*Results of the univariate analysis of variance – differences according to age*

Variable	Mean		Standard Deviation		Significance level P
	younger age	older age	younger age	older age	
B	0.60	0.17	1.20	0.37	0.61
A	1.00	1.83	1.10	2.61	0.18
S	1.60	1.17	0.49	1.77	0.18
I	2.00	2.67	2.10	2.49	0.27
<b>C</b>	<b>11.20</b>	<b>6.00</b>	<b>4.79</b>	<b>4.93</b>	<b>0.08</b>
<b>Ph</b>	<b>6.00</b>	<b>3.83</b>	<b>1.26</b>	<b>2.54</b>	<b>0.06</b>

In order to see the manifest differences between younger and older participants, the analysis of variance (Table 3) is shown. The results of the univariate analysis of variance among older children indicated the variable *Cognition (C)* and *Physicality (Ph)* as variables that mostly point to the tendency of differences although statistically significant differences were not obtained at any of the variables (Table 3). The most important aspect during a child's storytelling is observed through the environment a child is presently in (hospital conditions) and that emerged as significant in expressing a child's concealed and exposed behaviors.

Table 4

*Results of the robust discriminant analysis according to gender*

Discriminant value	Centroids		Standard Deviation		DF1= 1 DF2= 9	F	Significance P
	boys	girls	boys	girls			
4.42	-0.74	1.97	1.16	1.41		8.85	0.01

One discriminatory function was extracted and centroids for the group of boys and group of girls were calculated (Table 4). The presented results show a significance of the discriminant function less than 5% and discriminant value 4.42. The test of differences between centroids (F) is 8.85. Centroids of mean values at the discriminant function are at a distance of 2.71 standard deviation. Based on the mentioned results it can be concluded that boys and girls differ with respect to gender on the entire area of assessment of mechanisms for coping with stress under hospitalization conditions. Boys displayed significantly better average results than girls in observing the dominant themes and conflicts each child dealt with (-0.74 standard deviations). Table 5 shows differences between boys and girls based on the univariate analysis in the area *Basic Ph*. According to the results in Table 5, there are no statistically significant differences between arithmetic means of variables as the majority significance level is higher than 5%. However, the results also indicate that, with respect to the dominant problem areas, the most present variables are *Belief (B)* and *Physicality (PH)*, and the least present is the

variable *Social (S)* which in the entire Basic Ph area establishes that there is a difference between the presented variables which can be observed as statistically significant.

Table 5

Results of the univariate analysis of variance – according to gender

Variable	Mean		Standard Deviation		Significance P
	boys	girls	boys	girls	
<b>B</b>	<b>0.38</b>	<b>0.33</b>	<b>0.99</b>	<b>0.47</b>	<b>0.08</b>
A	0.63	3.67	0.99	2.62	0.17
S	1.13	2.00	0.78	2.16	0.55
I	1.88	3.67	1.76	3.09	0.27
C	7.75	10.00	5.45	5.35	0.26
<b>Ph</b>	<b>4.25</b>	<b>6.33</b>	<b>2.22</b>	<b>1.89</b>	<b>0.08</b>

The results point to the fact that boys and girls feel lonely under hospitalization conditions as they had to face the unknown. Psychophysical reactions can be disrupted in a new environment along with a child's self-respect which is evident in the results from the variable *B (Belief)*. Sadness and distress are common feelings accompanying hospitalization and separation from parents and family. Accordingly, in the majority of stories created by the participants we come across the dimension *B (Belief)* as a personal strength of facing hospitalization conditions in which they have found themselves. The presence of the dimension *C (Cognitive)* and *I (Imagination)* indicates that the majority of children express motivation and happiness for observing and listening in supportive circumstances and that with the application of art-expressive techniques (story, drawing) children develop a better self-image and more easily cope with hospitalization. The results lead to the conclusion (as can be seen through the dimension *PH (Physicality)* that children find hospitalization difficult to accept followed by accepting a changed self-image due to illness. The dimension *C (Cognitive)* and *B (Belief)* is a sign of anxiety which is present with respect to the environment the children are in and loneliness. This points to the fact that, in addition to physical changes, boys and girls also undergo psychological changes. The presence of other dimensions *S (social)* and *A (affective)* for this sample of participants can be interpreted to the present existential tension which can be ascribed to the absence of parents and parental home. It can be concluded that between the set variables in the entire *Basic Ph* area there is a significant difference between younger and older children and gender which can be interpreted as statistically significant. This leads to the conclusion that the application of this art-expressive technique, based on drawing and storytelling, created a change in the values of the control variable which confirms the set hypothesis.

The results obtained through the application of the TEMAS test show an arousal of a child's creativity during high levels of existential tension, e.g. desire for achievement, anger management, moral reasoning which were encouraged through selected intervention methods depending on the diagnosis, clinical picture and child's needs. The results (Table 6) showed that in the final stage, a child's fluency increased during

verbalization, fewer sub-questions were needed and their motivation in general increased. Furthermore, in problem areas – separation, need for protection, experience of pain and fear, children of a lower chronological age in the final assessment had a reduced number of omissions of events shown in cards, i.e. a reduced number of omissions of details in identifying events shown in the picture. Table 6 shows the results of the analysis of qualitative changes in cognitive functions for the “Omissions” during support therapy with the patient, from thematic answers of the patient with respect to the number of characters, events and settings which were shown on picture cards. The results show that the variable event (EVEN) mostly contributes to creating components of change with the correlation with the function of change of -0.99, and the Mean for the variable EVEN is -0.09. Such a result points to the reduced number of omissions which the picture card shows and the participants reduced the total number of omissions in identifying the event on the picture card. Furthermore, the increased verbalization indicated a reduction of distorted perceptions of identifications and greater focus of attention in determining where the characters are located in the pictures and where the events occur. Projections of information in content of stories created greater encouragement for the participants in the continuation of art-expressive treatment to use greater attention and interest in correlating details by observing characters, events and settings, i.e. the environment where an event was taking place. Age however represented a significant factor in determining how a child would interpret events, react to stressful experiences and offered help. Young children (up to six years of age) frequently choose between play through imagination in order to control their psychophysiological reactions (Whitebread et al., 2017).

Table 6

*Structure of function of change and significance of arithmetic means for the Cognitive Function of TEMAS test – difference in results of initial and final state*

Variable	Mean	Discriminant coefficient	Correlations with functions of change	F	p
MCHA	0.09	-0.08	-0.11	1.10	0.32
SCHA	-0.27	0.43	0.60	2.15	0.17
EVEN	-0.09	-0.72	-0.99	0.14	0.71
SETT	-0.27	-0.54	-0.75	4.13	0.07

Legend: Omissions – Main Character (MCHA), Secondary Character (SCHA), Event (EVEN), Setting (SETT)

The results of the conducted research show the value of applying supportive art-expressive methods for children with malignant diseases during hospitalization. This proves the hypothesis according to which the effect of a selected individualized support program for assistance in coping with hospitalization with the application of art-expressive techniques and symbolic expression of a child is manifested in a change of values for the control variables. The research showed that art-expressive techniques through pictures, storytelling and drawing stories helped increase a child’s expressive potential, reduce anxiety in the environment with hospital personnel and hospitalization

conditions, help in personal development and creativity. All of the mentioned facilitates reducing negative experiences of children during hospitalization considering their fundamental needs during treatment are affection, protection and safety (*International Expressive Arts Therapy Association - IEATA*, 2018). Regardless of the need for further research in order to improve the predictive value of the test in our country on such a sample of children, the TEMAS test with its pictorial applications helps a child understand newly occurred situations, the relationships and persons in their lives and enables discovery and research related to the child's emotional experiences and defense mechanisms it uses. Therefore, in our country, further research on the complex interdisciplinary areas of psychosocial oncology, education and rehabilitation sciences and art-expressive techniques in a hospital environment with children is necessary in order to establish additional application of art-expressive methods and techniques which are used and the aims and outcomes of the techniques applied.

## Conclusions

Art-expressive therapies are momentous as complementary approaches in contemporary medicine of the 21<sup>st</sup> century and along with standard treatment methods make up an important component in the treatment of psychological and physiological illnesses. Studies which focus on the application and perspectives of art-expressive techniques (Dionigi & Gremigni, 2016; Lopez-Bushnell & Berg, 2018) as supportive approaches to a child's development and improvement of quality of life, give insight into the main constructs which characterize the conceptualization of art as communication, which can be viewed as alternative approaches to treatment and answer to the individual needs of each child. In that context they show that a child's narration carried out through the interaction of art-expressive techniques contributes to the practice in education and rehabilitation sciences and in the highly stressful hospital environment.

The results shown in this paper, as a segment of the results obtained from interdisciplinary research, point to the significance of applying art-expressive methods as an integrative approach through the application of pictures, drawings, storytelling, on hospitalized children coping with malignant diseases. Such a supportive and complementary approach aims to show that the effect of picture, story and drawing inspires motivation and can reduce tension in children under hospitalization conditions. It shows that by using different methods of communication children develop a positive self-image and cope with the disease more easily. This paper, as an overview of some art-expressive techniques within education and rehabilitation sciences and clinical practice is a small contribution to the potentials for further progress and application of the positive effects of art-expressive methods and techniques. It offers possibilities for planning and carrying out future research within an interdisciplinary approach.

## References

- American Art Therapy Association (2017). American Art Therapy Association. <https://arttherapy.org/about-art-therapy/>
- American Cancer Society (2012). *Find support & treatment, The most reliable cancer treatment information: Art therapy* /online/. <http://www.cancer.org/Treatment/TreatmentsandSideEffectsComplementaryandAlternativeMedicine/MindBodyandSpirit/art-therapy>
- Buron, K. D. (2006). *When My Worries Get Too Big! A Relaxation Book for Children Who Live with Anxiety*. Autism Asperger Publishing Company.
- Bušljeta, R., & Piskač, D. (2018). *Literarna biblioterapija u nastavi književnosti*. Hrvatski studiji Sveučilišta u Zagrebu.
- Caprino, D., Naselli, F. G., & Massimo, L. (2016). Art Therapy: The Benefits for Sick Children. *J Psychol Clin Psychiatry* 6(2), 00345. <https://doi.org/10.15406/jpcpy.2016.06.00345>
- Costantino, G., Malgady, R. G., & Rogler, L. H. (2002). *TEMAS (Tell-Me-A-Story) Test Manual*. Western Psychological Services.
- Costantino, G., Dana, R., & Malgady, R. (2007). *TEMAS (Tell-Me-A-Story) Assessment in multicultural societies*. Lawrence Erlbaum Associates.
- Costantino, G., Litman, L., Waxman, R., Dupertuis, D., Pais, E., Rosenzweig, C., Forti, G., Paronik, J., & Canales, M. M. F. (2014). Tell-Me-A-Story (TEMAS) assessment for culturally diverse children and adolescents. *Rorschachiana*, 35(2), 154–175. <https://doi.org/10.1027/1192-5604/a000054>
- Croux, C., Filzmoser, P., & Joossens, K. (2008). Classification efficiencies for robust linear discriminant analysis. *Statistica Sinica*, 18(2), 581–599.
- Dionigi A., & Gremigni P. (2016). A combined intervention of art therapy and clown visits to reduce preoperative anxiety in children. *Journal of Clinical Nursing*. 26(5-6), 632–640. <https://doi.org/10.1111/jocn.13578>
- Dvir, Y., Ford, J. D., Hill, M., & Frazier, J. A. (2014). Childhood maltreatment, emotional dysregulation, and psychiatric comorbidities. *Harvard review of psychiatry*, 22(3), 149–161. <https://doi.org/10.1097/HRP.0000000000000014>
- Failo A., Beals-Erickson, S. E., & Venuti, P. (2018). Coping strategies and emotional well-being in children with disease-related pain. *J Child Health Care*, 22(1), 84-96. <https://doi.org/10.1177/1367493517749326>
- Gantt, L., & Tripp, T. (2016). The image comes first: treating preverbal trauma with art therapy. In J. King (Ed.), *Art therapy, trauma, and neuroscience: Theoretical and practical perspectives* (pp. 67-99). Routledge.
- Hollin, C. R., Epps, K. J., & Kendrick, D. J. (1995). *Managing behavioural treatment: Policy and practice with delinquent adolescents*. <https://doi.org/10.4324/9780203322406>
- International Expressive Arts Therapy Association (IEATA). *Expressive Arts Therapy Resources (multi-modal)*. <https://www.ieata.org/>

- Kelly, S., Davies, L., Harrop, D., McClimens, A., Peplow, D., & Pollard, N. (2015). *Reviewing art therapy research: A constructive critique*. Project report. Sheffield Hallam University / online/. <https://shura.shu.ac.uk/11359/1/Reviewing%20Art%20Therapy%20Research.pdf>
- Knill, P., Levine, E., & Levine, S. (2005). *Principles and practice of expressive arts therapy: Towards a therapeutic aesthetics*. Jessica Kingsley Publishers.
- Kozłowska, K., & Khan, R. (2011). A developmental, body-oriented intervention for children and adolescents with medically unexplained chronic pain. *Clinical Child Psychology and Psychiatry*, 16(4), 575-598. <https://doi.org/10.1177/1359104510387886>
- Kudek Mirošević, J. (2008). *Evaluacija utjecaja komplementarnih, suportivnih i palijativnih metoda tretmana u kompleksnom liječenju i rehabilitaciji djece sa solidnim tumorima. (Doktorska disertacija)*. Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu.
- Kudek Mirošević, J. (2010). Dijete s malignim oboljenjem i klinička procjena utjecaja komplementarnih suportivno-terapijskih programa. *Hrvatska revija za rehabilitacijska istraživanja*, 46(1), 33-40.
- Kudek Mirošević, J., Stepan Giljević, J., & Miholić, D. (2011). Complementary Supportive Therapy for a Child in Rehabilitation and Palliative Care. *Libri Oncologie: Croatian Journal of Oncology*, 39(1-3), 31-35.
- Kudek Mirošević, J. (2013). Suportivna terapija u pedijatrijskoj onkologiji (Supportive Therapy in Pediatric Oncology). In M. Prstačić (Ed.), *Umjetnost i znanost u razvoju životnog potencijala. Znanstvena knjiga* (pp. 153-159). Hrvatska udruga za psihosocijalnu onkologiju, Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu.
- Lahad, M. (2000). *Creative Supervision: The Use of Expressive Arts in Supervision and Self-Supervision*. London: Jessica Kingsley Publishers.
- Lahad, M. (2013). *The "BASIC Ph" Model of Coping and Resiliency*. London: Jessica Kingsley Publishers.
- Lee, J. A. (2018). Solid Tumors in Children and Adolescents. *Journal of Korean medical science*, 33(41), e269. <https://doi.org/10.3346/jkms.2018.33.e269>
- Lopez-Bushnell, F. K., & Berg, M. (2018). Effects of Art Experience on Hospitalized Pediatric Patients. *M J Pedi*, 3(1), 013.
- Malchiodi, C. A. (2011). *Handbook of art therapy*. Guilford Press.
- Malchiodi, C. A. (2012). Art Therapy and the Brain. In C. A. Malchiodi (Ed.), *Handbook of Art Therapy*. Guilford Press.
- Malchiodi, A. C. (2015). Creative interventions and childhood trauma. In C. A. Malchiodi (Ed.), *Creative interventions with traumatized children* (2<sup>nd</sup> ed., pp. 126-145). New York: Guilford Press.
- Martinec, R. (2008). *Analiza suvremenih pristupa u multidimenzionalnoj procjeni slike tijela u onkoloških bolesnika. (Doktorska disertacija)*. Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu.
- Mejovšek, M. (2013). *Metode znanstvenog istraživanja u društvenim i humanističkim znanostima*. Naklada Slap.

- Miholić, D. (2012). *Komplementarna kreativna i art terapija, te psihodinamika djeteta - roditelj u konceptu sofrologije i psihosocijalne onkologije. (Doktorska disertacija)*. Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu.
- Miholić, D., & Martinec, R. (2013). Some Aspects of Using Expressive Arts-Therapies in Education and Rehabilitation. *Specijalna edukacija i rehabilitacija*, 12(2), 221-240. <https://doi.org/10.5937/specedreh12-3506>
- Miholić, D., Prstačić, M., & Martinec, R. (2013). Art/expressive therapies and psychodynamics of parent-child relationship in concept of sophrology and psychosocial oncology. *Hrvatska revija za rehabilitacijska istraživanja*, 49(2), 115-128.
- Miholić, D., Prstačić, M., & Nikolić, B. (2013). Art/expressive psychotherapy and sophrology in the analysis of coping mechanisms in child with malignant disease. *Hrvatska revija za rehabilitacijska istraživanja*, 49 (Supplement), 73-84.
- Milutinović, L., Braš, M., & Đorđević, V. (2017). Art Therapy as Supportive-Expressive Therapy in Breast Cancer Treatment. *Socijalna psihijatrija*, 45(4), 262-269. <https://doi.org/10.24869/spsih.2017.262>
- Nikolić, B. (1997). Analysis of changes in sample of respondents described by a group of characteristics in two points in time. In *Rehabilitation and inclusion: Proceedings of the 5th Scientific Conference of Faculty of Special Education and Rehabilitation, University of Zagreb* (pp. 103-114). Faculty of Special Education and Rehabilitation, University of Zagreb.
- Orzechowska, A., Zajączkowska, M., Talarowska, M., & Gałęcki, P. (2013). Depression and ways of coping with stress: a preliminary study. *Medical science monitor: international medical journal of experimental and clinical research*, 19, 1050-1056 <https://doi.org/10.12659/MSM.889778>
- Pandey, A., Hale, D., Das, S., Goddings, A. L., Blakemore, S. J., & Viner, R. M. (2018). Effectiveness of Universal Self-regulation-Based Interventions in Children and Adolescents. A Systematic Review and Meta-analysis. *JAMA Pediatrics*, 172(6), 566-575. <https://doi.org/10.1001/jamapediatrics.2018.0232>
- Phipps, S. (2007). Adaptive Style in Children with Cancer: Implications for a Positive Psychology Approach. *Journal of Pediatric Psychology*, 32(9), 1055-1066. <https://doi.org/10.1093/jpepsy/jsm060>
- Pivac, D. (2013). Ispitivanje doživljaja likovnih umjetničkih djela i mogućnosti njihove primjene u dijagnostici, kreativnoj i art-terapiji. *Hrvatska revija za rehabilitacijska istraživanja*, 49 (Supplement), 85-95.
- Prstačić, M., Nikolić, B., Pospiš, M., Horvatić, J., & Hojanić, R. (2002). O znanosti i nekim, aspektima interdisciplinarnosti, Značaj interdisciplinarnog pristupa u tretmanu cerebralne paralize. In M. Pospiš (Ed.), *Zbornik radova* (pp. 7-22). Hrvatski savez udruga cerebralne i dječje paralize.
- Prstačić, M. (2003). *Ekstaza i Geneza – Znanost, umjetnost i kreativna terapija u psihosocijalnoj onkologiji i sofrologiji*, (trojezično izdanje – hrvatski, francuski i engleski). Medicinska knjiga.
- Prstačić, M., Eljuga, D., Matijević, A., Nikolić, B., Čepulić, M., & Stepan, J. (2004). Psihosocijalna onkologija. *Hrvatska revija za rehabilitacijska istraživanja*, 40(1), 77-90.

- Prstačić, M. (2005). *Cerebralna paraliza i Ex-Gen kreativna terapija*. Hrvatska udruga za psihosocijalnu onkologiju, Odsjek za studij motoričkih poremećaja, kroničnih bolesti i art-terapija, Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu, Udruga za cerebralnu paralizu, Atena, Hrvatska udruga za cerebralnu i dječju paralizu.
- Prstačić, M., & Sabol, R. (2006). *Psihosocijalna onkologija i rehabilitacija*, Medicinska naklada.
- Prstačić, M., Loes-Agnero, R., & Skoblar, L. (2013). Grupno likovno izražavanje i transkulturni pristup. In M. Prstačić (Ed.), *Umjetnost i znanost u razvoju životnog potencijala* (pp. 89-96). Hrvatska udruga za psihosocijalnu onkologiju, Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu.
- Rokach, A. (2016). Psychological, emotional and physical experiences of hospitalized children. *Clinical Case Report Reviews*, 2(4), 399-401. [https://www.oatext.com/Psychological-emotional-and-physical-experiences-of-hospitalized-children.php#Article\\_Info](https://www.oatext.com/Psychological-emotional-and-physical-experiences-of-hospitalized-children.php#Article_Info), <https://doi.org/10.15761/CCRR.1000227>
- Rodriguez, J. (2002). Art-terapija. In M. Prstačić (Ed.), *Umjetnost i znanost u razvoju životnog potencijala* (pp. 61-65). Hrvatska udruga za psihosocijalnu onkologiju, Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu.
- Rowe, C., Watson-Ormond, R., Rubesin, H., Marshall, A., Linton, K., Amolegbe, A., Agnew-Brune, C., & Eng, E. (2017). Evaluating Art Therapy to Heal the Effects of Trauma Among Refugee Youth: The Burma Art Therapy Program Evaluation. *Health Promotion Practice*, 18(1), 26-33. <https://doi.org/10.1177/1524839915626413>
- Saw, J. J., Curry, E. A., Ehlers, S. L., Scanlon, P. D., Bauer, B. A., Rian, J., Larson, D. R., & Wolanskyj, A. P. (2018). A brief bedside visual art intervention decreases anxiety and improves pain and mood in patients with hematologic malignancies. *European Journal of Cancer Care*, 27(4), e12852. <https://doi.org/10.1111/ecc.12852>
- Simons, L. E., Logan, D. E., Chastain, L., & Cerullo, M. (2010). Engagement in multidisciplinary interventions for pediatric chronic pain: Parental expectations, barriers, and child outcomes. *Clinical Journal of Pain*, 26(4), 291-299. <https://doi.org/10.1097/AJP.0b013e3181cf59fb>
- Slayton, S. C., D'Archer, J., & Kaplan, F. (2010). Outcome Studies on the Efficacy of Art Therapy: A Review of Findings. *Journal of the American Art Therapy Association*, 27(3), 108-118. <https://doi.org/10.1080/07421656.2010.10129660>
- Stutey, D. M., Helm, H. M., LoSasso, H., & Kreider, H. D. (2016). Play therapy and photo-elicitation: A narrative examination of children's grief. *International Journal of Play Therapy*, 25(3), 154-165. <https://doi.org/10.1037/a0039956>
- Svensk, A. C., Öster, I., & Thyme, K. E. (2009). Art therapy improves experienced quality of life among women undergoing treatment for breast cancer: a randomized controlled study. *European Journal of Cancer Care*, 18(1), 69-77. <https://doi.org/10.1111/j.1365-2354.2008.00952.x>
- Škrbina, D. (2013). *Art terapija i kreativnost, Multidimenzionalni pristup u odgoju, obrazovanju, dijagnostici i terapiji*. Veble comerce.

Whitebread, D., Neale, D., Jensen, H., Liu, C., Solis, S.L., Hopkins, E., Hirsh-Pasek, K. Zosh, J. M. (2017). The role of play in children's development: a review of the evidence (research summary). The LEGO Foundation, DK. [https://www.legofoundation.com/media/1065/play-types- -development-review\\_web.pdf](https://www.legofoundation.com/media/1065/play-types--development-review_web.pdf)

Žižak, A. (2010). *Teorijske osnove intervencija – socijalnopedagoška perspektiva*. Edukacijsko-rehabilitacijski fakultet Sveučilišta u Zagrebu /online/. Retrieved on 4<sup>th</sup> August 2019 from <http://www.arttherapyjournal.org/art-therapy-for-children.html>

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# Primjena art-ekspresivnih tehnika kod djece s kroničnim oboljenjem u području edukacijske rehabilitacije

## Sažetak

*Tijekom posljednja dva desetljeća u području primijenjenih edukacijsko-rehabilitacijskih znanosti počinje se intenzivnije razvijati integrativni pristup koji uključuje art-ekspresivne metode i tehnike za poticanje svijesti i socioemocionalnoga razvoja. U okviru kroničnih oboljenja u dječjoj dobi, područje psihosocijalne onkologije predstavlja posebnu važnost u širenju profesionalnih kompetencija i razvoja interdisciplinarne komunikacije. Iskustva pedijatrijske onkologije govore da je vrlo stresno i traumatično iskustvo za dijete kada se mora suočiti s bolešću i razumjeti stanje u kojem se nalazi. Stoga je cilj rada ukazati na važnost utjecaja art-ekspresivnih tehnika kroz primjenu različitih medija kao integrativnog pristupa. U radu se želi istaknuti važnost art-ekspresivnih tehnika provedenih na odjelu za onkologiju i hematologiju Klinike za dječje bolesti u Zagrebu kod djece oboljele od maligne bolesti, u suočavanju s fizičkim i emocionalnim stresom tijekom hospitalizacije. Istaknuta je važnost psihosocijalne podrške kroz primjenu dječje priče, crteža i slika koje mogu pogodovati djetetovim emocionalnim stanjima. Rezultati praćenja primijenjenih tehnika ukazali su na pozitivan učinak kad je kod djeteta prisutna bol i egzistencijalna napetost.*

**Ključne riječi:** *integrativni pristup; maligna oboljenja u dječjoj dobi; psihosocijalna podrška; suportivno-terapijske tehnike*