

THERAPEUTIC FILMMAKING, STRATEGIC PSYCHOTHERAPY AND AUTISM SPECTRUM DISORDER: AN INTEGRATED APPROACH

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Abstract

The experimental protocol presented in this paper aims to explore the potential agency of cinematic dispositive and moving images as part of the therapeutic process, in particular of the strategic approach, in supporting children and adolescents with Autism Spectrum Disorder (HFASD Level 1, DSM-5) and their families. The protocol illustrates the methodological integration of the Strategic Psychotherapy approach, parent training, and the following audiovisual techniques: Therapeutic Filmmaking; Cinematherapy; Documentary Videotherapy. This methodological integration guarantees a narrative and patient-centered-approach, in which the participants (children and families) are actively involved in the creative therapeutic process. The research protocol described aims to (a) enhancing social, relational skills and self-representation in youths with ASD; (b) helping the family system to manage stress and to improve educational strategies to promote positive children's behavior and psychological well-being.

Keywords: therapeutic filmmaking; cinematic dispositive; cinematherapy; autism spectrum disorder; strategic psychotherapy

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Introduction

Autism Spectrum Disorder and social functioning

Autism Spectrum Disorder (ASD) is a heterogeneous neurodevelopmental disease characterized by persistent deficits in social interaction, verbal and nonverbal communication, and a limited and stereotypical pattern of interests.

The clinical evaluation of ASD defines the disease as “spectrum”, identifying the distribution of symptoms as based on a gradient of severity, divided into Level 1 or high-functioning autism spectrum disorder (HFASD) and Level 2 and 3 or low-functioning autism spectrum disorder (LFASD), as reported by the Diagnostic and Statistical Manual of Mental Disorders, DSM-5 (APA, 2013). ASD individuals, regardless of the severity level, present some difficulties in social functioning, intended as the integration of social cognition and behavior (Corbett, Key, Qualls, Fecteau, Newsom et al., 2016).

Social cognition is defined as the capacity to correctly interpret and adequately respond to social stimuli (Adolphs, 1999). Social interaction and mutual social communication (both verbal and nonverbal) of ASD subjects are also reduced qualitatively and quantitatively as compared to neurotypical subjects (Speirs, Yelland, Rinehart, & Tonge, 2011). ASD subjects have difficulties in recognizing and processing social stimuli (Ashwin, Hietanen, & Baron-Cohen, 2015) as a consequence of a deficit in different social skills, such as in the identification of emotions through facial expression (Lombardo, Barnes, Wheelwright, & Baron-Cohen, 2007; Burnside, Wright, & Poulin-Dubois, 2017), in Theory of Mind-ToM (Livingston, Colvert, Bolton, & Happé, 2019), and in feeling empathy (Leslie, Johnson-Frey, & Grafton, 2004; Peterson, Slaughter, Moore, & Wellman, 2016; Berggren et al., 2018). Also, studies on children and adolescents with various severity levels of ASD highlighted atypical emotion recognition through facial expressions and Theory of Mind (Griffiths, Jarrold, Penton-Voak, Woods, Skinner et al., 2017; Patriquin, 2019; Pastorino et al., 2021).

As suggested by Mensi et al. (2018), the difficulty in emotional facial recognition could negatively affect the empathic responses to other people's emotions (Schulte-Rüther et al., 2016; Trimmer, McDonald, & Rushby, 2017; Harmsen, 2019; Fletcher-Watson & Bird, 2020). Regardless of the various etiological hypotheses, it's crucial to consider that socio-communicative deficits can restrict ASD children's ability to develop stable and long-lasting friendships, especially among peers. Their difficulty in communication and reciprocity,

especially in level 1 adolescents (Lounds, Adams, & Bishop, 2017), can determine stress in social contexts, feelings of low self-esteem, inadequacy, anxious/depressive mood, and social withdrawal (Dovgan & Mazurek, 2018; Operto et al., 2021).

Youths with Level 1 ASD present a greater receptivity and a lower impairment of social and relational abilities than levels 2 and 3. Consequently, intervention programs have focused more on the involvement of these subjects, obtaining promising results (Tanner, Hand, O'Toole, & Lane, 2015). These studies focused on improving social cognition and behaviors focused on ToM, through ad-hoc training and social skills-based treatments (Choque et al., 2017).

In planning an effective intervention program, consider some general characteristics of the individuals on the spectrum is needed, such as high anxiety levels associated with social contexts, especially if unfamiliar, the tendency to repeat a specific routine and ritual behaviors, and the extreme sensitivity to social stimuli. Also, the relationship with neurotypical or ASD peers could promote social interaction and self-acceptance (Stichter et al., 2012).

Aims of the study

Our study aims to (a) built an integrated method based on a person-centered approach, audiovisual languages, and participative practices and techniques, improving social, relational, and creative skills in youths with ASD; (b) help the family system to manage stress and to develop educational strategies, promoting psychological well-being among children's; (c) evaluate the integrated method proposed through an *ex-ante* and *ex-post* comparison on the participants.

Cinematic dispositive and therapeutic applications

Classical studies within film theory pointed out the strong relationship between psychology and cinema ever since its beginnings (Morin, 1956; Metz, 1977). More recent studies in visual psychology and neuroscience brought out strong evidence of continuity between perceiving scenes in movies and the world, because of the similarities between the perceiving dynamics of direct and mediated experience (Gallese & Guerra, 2015). On these grounds, the notion of film as "living body", as the corporeal image emerged from the interaction between the filmmaker, the spectator, and the movie itself (MacDougall, 2006), has been considered as the "lived modes" of perceptual and sensory experience of the cinema (Sobchack, 2004).

The use of cinematic language and art-based approaches (Malchiodi, 2011; Ulman & Dachinger, 1975; Rubin, 2012) is well-known in treating dysfunctional

behaviors among young people and adults with psychological disease (Egeci & Gencoz, 2017; Gregerson, 2010) disabilities and neurodevelopmental disorders, such as ASD (Kangas, Cook, & Rule, 2017; Smieszek, 2019; Benjamin-Thomas, Rudman, Gunaseelan, Abraham, Cameron et al., 2019; Lorusso & Venturini, 2020). In this regard, it is relevant to note that therapeutic interventions take place within a specific dispositive, which follows definite rules and functioning (Baudry, 1975, 1974; Deleuze, 1989; Agamben, 2006). The art-therapy-based- intervention involves a double dispositive. On the one hand, the cinematographic apparatus that defines the relationship between the “viewing subject” - the spectator - and the “object of the viewing” - the movie -; on the other side, the therapeutic process that occurs in a specific setting according to peculiar requirements and regulations.

Among very different typologies of treatments that make use of moving images, video modeling (VM), considered as an evidence-based procedure, has been widely used to teach a variety of skills to individuals with autism spectrum disorder (Hein et al., 2019; McCoy et al., 2016). VM and video self-modeling (VSM) techniques use video recording and display equipment to provide a visual model of the targeted behavior or skill to be imitated (Cardon, Wangsgard, & Dobson, 2019; Dueñas, Plavnick, & Bak, 2019). VM and VSM seem to be effective intervention strategies for implementing social-communication skills and behavioral functioning in youths with ASD (Charlop, Lang, & Rispoli, 2018; Hochhauser, Weiss, & Gal, 2018; Ashori & Jalil-Abkenar, 2019; Mitsch, Riggleman, & Buchter, 2020).

Due to the capacity to involve and stimulate the participants, psychological interventions, and programs for ASD youths can integrate these tools. Indeed, these aspects are two of the most significant components for successful treatment, specifically among level 1 ASD youths, due to their greater receptivity to external stimuli and relational skills. These characteristics make them more sensitive to these types of interventions based on creativity, action, and participation (Hochhauser, Weiss, & Gal, 2018).

As aforementioned (Saladino et al., 2020), Cinematherapy and Filmtherapy are often evaluated as synonymous (Kangas, Cook, & Rule, 2017; Rubtcova & Pavenkov, 2017). Therefore, we differentiate these methodologies according to the definition of Francesco Casetti (2015) between Delivery and Setting modes of relocated cinematic vision. Depending on the role and position of the patient, we can define Cinematherapy as the process of reproduction of the visual and environmental characteristics of the cinema, to make patients feel like they are inside a movie

theatre (Saladino et al., 2020). On the other hand, Filmtherapy focuses on the movie itself, which offers characters and situations the patients can identify with (Mytnik-Daniluk, 2019; Renata et al., 2020).

We can consider Cinematherapy as a process of Setting, utilized by the therapist to recreate the same immersive condition of the movie theatre. In this process, the patient experiences a situation that looks like a cinematic one, alone or with other patients. Instead, Filmtherapy can be defined as a process of Delivery. The therapist draws narrative elements from the movies to tackle specific issues reported by the patients. This process aims to identify analogies and differences between the plot and the patient's life, improving their self-awareness.

In the technique we defined Documentary Videotherapy (Sabatino, Saladino, & Verrastro, 2020; Saladino, Sabatino, & Sola, 2021), the patients are filmed in their own family and social context by a video-therapeutic team composed of a filmmaker and a psychotherapist. The troupe collects audio-visual footage of the patient's everyday life and edits a tailor-made documentary according to the main goals of the treatment. During the vision of their customized movie, the patients become their spectators, perceiving themselves as "someone else" and reflecting on the represented contents with the psychotherapist. The biographical documentary movie helps the patients to externalize the personal perception, reflecting on it from an outside perspective.

Therapeutic Filmmaking instead is comparable to a narrative therapy process (Charon, 2008; ISS-CNMR, 2015), in which the patients assume an even more active role in structuring the plot and in creating their movie (Johnson & Alderson, 2008; Cohen, Johnson, & Orr, 2015; Sabatino & Saladino, 2018). Therapeutic Filmmaking facilitates a self-narrative process (Rascaroli, 2009; Lebow, 2012; Anderst, 2017; Sabatino, 2019). The technique is based on participatory action research (Blaisdell, Arnott, Wall, & Robinson, 2019; Coussens et al., 2020; Ghanouni et al., 2020; Knutz & Markussen, 2020) and performative documentary models (Shaw & Robertson, 1997; Nichols, 2001; Bruzzi, 2006). The movie created by patients is a container of their personal experiences, emotions, unconscious feelings, and behaviors, in which the mirroring mechanisms - triggered in Filmtherapy and Cinematherapy - are replaced by a self-awareness process. Watching their movie after having written, shot, and edited it, makes patients spectators of their own movie. Extending the perspective of Gallese and Guerra (2015) to such a self-narrative process, we believe that the act of viewing themselves on the "empathic screen" helps and pushes the patients-spectators to integrate the

represented contents, such as wounds and desires, as a part of themselves. Consequently, they can become the main characters and authors of their filmic and creative experience and existence through the transformative performance to which as participants are called (Fischer-Lichte, 2008).

Because of the accessibility of digital filmmaking, creative video production in therapy is effective, especially with children and people with disabilities and psychological disease (LePage & Courey, 2011; Pereira, Muench, & Lawton, 2017), as well as emotional expression, personal growth (Manders & Chilton, 2013) and dysfunctional behaviors (Khoo & Yusoff, 2016).

Strategic therapy: possible interventions for Autism Spectrum Disorder

The interest of psychology towards Autism Spectrum Disorder is increasing, especially because of the high rate of comorbidity with other psychopathologies common in children and adults with ASD, such as anxiety and depression (Anderberg et al., 2017; Muskett et al., 2019).

Due to the stress-inducing factors associated with the specific developmental stages of preadolescence and adolescence, neuro-atypical individuals can increase ASD symptoms and the risk of relapse in dysfunctional behaviors. Consequently, ASD youths need psychotherapeutic support during development to promote their psychophysical well-being.

Psychotherapy can have a positive effect on ASD patients in reducing and managing anxiety symptoms derived from stressful challenges of adolescence. Also, therapy can facilitate the acquisition of social skills (Hunsche & Kerns, 2019; Wood et al., 2020). Results of several studies found the importance to promote strategies for emotional and cognitive regulation, to mitigate negative feelings in youths with ASD (Bruggink et al., 2016; Cibralic et al., 2019; Patriquin, 2019). Indeed, these individuals show some issues in using their cognitive and emotional strategies, leading to a higher risk of developing clinical psychopathologies. Thus, the role of the therapist is to educate them in employing more functional behaviors (Huijnen, Lexis, & de Witte, 2016; Andersen & Helland, 2017).

Psychotherapy programs for ASD patients should not be based only on teaching strategies and behaviors, but also on improving the quality of life and the network of patients and their families. Humanistic and systemic therapies, such as Strategic Therapy (ST), are examples of this approach. The goal of the psychotherapeutic relationship is to decrease the psychological distress of the patient, thought an active process of change. ST is based on the involvement of the

family and aims to support both individuals and the system in managing ASD symptoms which can negatively affect their psychophysical health. The ST derives from the Palo Alto School (Ray, 2007) and includes elements of Cognitive-Behavioral Therapy (CBT), Systemic Therapy, and Person-centered Therapy. The ST is also applied with behavioral disorders, eating disorders, oppositional defiant disorder (ODD), attention deficit hyperactivity disorder (ADHD), and psychoses. The principal strategy used by ST with childhood and adolescence disorders is the “indirect” one, focused on supporting the parents in helping their children (Verrastro, 2015). A strategic therapist guides parents in identifying the problematic areas of the family system and prescribes strategies to promote changes. Indeed, the ST perceives the parental couple as a significative reference and agent of change in the child’s treatment and support (Madanes, 1991; Haley & Richeport-Haley, 2003; Calandi, 2016).

ST comprises the following principles:

Dynamic and flexible psychotherapeutic setting: the therapeutic setting is defined as a “safe place” in which the patient and the psychotherapist can create a caring relationship. The setting consists of an external and internal space. The first one is concrete heterotopic space (Foucault, 1967) characterized by the location of the therapy (*e.g.*, psychotherapist’s office, hospital); while the second represents the mental organization and the structure of the therapy (*e.g.*, timing of the sessions, the main rules, and objectives of the psychotherapy). In ST the setting is mostly based on the present situation of the patients, in the evaluation of their storytelling during therapy, and on great flexibility and adaptability to the need of the patients and of the context.

Integration of tools and techniques: ST is an integrated method that can include different strategies and techniques from other therapeutic approaches, such as creative methods used in art therapy. The dynamicity and flexibility of the setting guarantee this integration which is part of the therapeutic process (Verrastro & Petruccelli, 2012). Furthermore, ST is based on creativity, workability, and changing strategies according to the situation and the patient’s needs.

Focus on the skills and strengths: ST considers the critical issues of patients as a problem to solve and establishes with them a project to realize together, focusing on their principal skills and strengths. The attention on the resources minimizes and reduces the feeling of incapacity. Also, this focus reinforces the self-esteem and the sense of identity of the person. Therapy becomes

a teamwork in which both patient and therapist, set themselves to achieve the agreed goals (Nardone & Watzlawick, 2005).

The person has a problem but is not the problem: this concept is a key point of ST. The patient is a person with a problem but is not identified with the problem itself. This state of mind increases the responsibility of patients, who begins to consider themselves as different from their disease, assuming an active role in the therapeutic process.

Family system: as a systemic approach, ST considers patients part of their social context and family system (Klajs, 2016). According to this perception, there is a mutual influence among the persons and their system, and this aspect affects the outcome of the therapy (Szapocznik et al., 2014). The psychotherapist might include directly or indirectly the family system to promote a mutual change. This inclusion is desirable when the patients are children (Jiménez et al., 2019).

Behavioral prescriptions and solution task: the problem and the disease are often derived from a rigidity of the personal perception of the patient. ST aims to provide a more flexible and adaptive schema of thinking and behaviors. ST uses practical exercises and homework called “behavioral prescription” and “solution task”, helpful for the patients in acting directly on the problem (Eisenberg & Wahrman, 1991; Watzlawick, 2010; Hoyt, 2019).

Due to these characteristics, Strategic Therapy can integrate several tools in the therapeutic process, such as audiovisual tools which contribute in promoting change, looking at patients not as passive spectators but as active creators of their reality.

Clinical trial protocol

The research protocol was validated after a pilot experimentation at the “Unità Operativa Complessa di Neuropsichiatria Infantile” of the University Hospital “San Giovanni di Dio e Ruggi d’Aragona” (Italy). It derives from the collaboration of the following institutions, associations, and entities:

- Department of Political and Communication Sciences of the University of Salerno, Salerno, Italy;
- Department of Human, Social and Health Sciences of the University of Cassino and Southern Lazio, Cassino, Italy;
- Department of Medicine, Surgery and Dentistry "Scuola Medica Salernitana", University of Salerno, Salerno, Italy;

- Audiovisual Storytelling Laboratory (LABSAV) of the University of Salerno, Salerno, Italy;
- Department of Medical and Surgical Sciences, “Magna Graecia”, University of Catanzaro, Catanzaro, Italy;
- Institute for the Study of Psychotherapies, Rome, Italy;
- Social and cultural association “Gruppo Pensiero”, Salerno, Italy;
- Social and cultural association “Sviluppo Psicosociale”, Rome, Italy;
- “Psicotipo”, Association for Information and Adjournalment in Psychology;
- Society for Research in Video and Filmmaking Therapy (REFIT).

Objectives

The main goal of this protocol is to evaluate the effect of the integrated approach as described on specific psychological and behavioral domains for both ASD youths and parents through an intervention *ex-ante* and *ex-post* comparison:

Objectives for youths

- Daily-life autonomy: improving personal autonomy and adaptive behaviors (get up, go to school, have lunch, taking care of their homework, personal hygiene);
- Socio-communicative skills: enhancing the youths’ social, relational, and communicative skills in the relationship with others (peers and adults);
- Socio-emotional skills: improving and maintaining empathy, emotional and facial expressions processing and recognition, theory of mind perspective;
- Self-concept: promoting self-awareness of personal resources and strengths, developing a positive self-image;
- Externalizing and internalizing conducts: reducing aggressive behaviors or anxiety and tendency to withdrawal issues;
- Flexibility: promoting a higher tolerance to unexpected occurrences, discovering passions and hobbies.

Objectives for parents

- Family support: helping parents as a parental couple to focus on their relationship and explore their feelings, emotions, and family dynamics;
- Educational tools and strategies: providing the parental couple specific tools to understand their children emotions and behaviors and then respect their identity despite the disorder;
- Parental resources: reducing parental stress associated with disorder management, underlying resources.

Sample and inclusion criteria

The target group has been selected according to the following inclusion criteria: (a) Autism Spectrum Disorder diagnosis - severity level 1, according to DSM-5; (b) Age range: 8-16 years; (c) Both genders; (d) Absence of psychological disorders in the parental couple and ASD youths.

Procedure and methods

The research protocol proposed is a longitudinal study designed for ASD youths (Level 1) and their families. The protocol is structured in five times: T0 pre-evaluation of the sample; T1 evaluation post-intervention; T2 follow-up after three months; T3 follow-up after six months; T4 follow-up after twelve months. This protocol has some elements like the well-known intervention programs that include creative and participative approaches (LePage & Courey, 2011; Corbett et al., 2016) and the involvement of the family system and peers. It also includes the use of audiovisual tools of Cinematherapy and Documentary Videotherapy as previously defined and Therapeutic Filmmaking (Cohen, Johnson, & Orr, 2015). The novelty of the intervention consists of:

- the integration between psychotherapeutic, educative and creative techniques;
- the promotion of the relationship among ASD youths, with a peer buddy approach;
- the Strategic Psychotherapy approach on parent training;
- the incrementation of self-awareness by the mixed audiovisual tools of Therapeutic Filmmaking, Cinematherapy, Documentary Videotherapy, and “Video-Medication” trials.

The protocol provides a scientific evaluation of the results obtained with quantitative and qualitative methods (questionnaires and interviews) during the assessment and the follow-up.

The team of researchers is composed of a neuropsychiatrist, a psychologist-psychotherapist, and a filmmaker. The neuropsychiatrist administers questionnaires to the participants during the preliminary assessment and the follow-up. The psychologist-psychotherapist and the filmmaker conduct the interviews in the first steps and during the follow-up and carry out the whole intervention. According to the situation, the protocol foresees to include any operators in supporting the participants and the professionals.

The team illustrates the informed consent for adult participants and children, signed by their parents. The informed consent derives from the Canadian

Psychological Association (2001), the American Psychological Association's code of ethics (2010), and the Italian legislative references about the copyright and consent for personal data processing.

The protocol was approved and validated by the Institutional Review Board of the Department of Human Sciences, Society and Health, University of Cassino and Southern Lazio (Italy), and the Ethics Committee Campania Sud of the University of Salerno (Italy).

Phases of intervention

Every session taking place during the clinical trial is video recorded.

The protocol is composed of 8 phases as follows:

Phase 1. Information, Informed Consent, and Couple Selection: the team provides a detailed description of the protocol and acquires the written informed consent. After recruitment, the team select couples of ASD participants according to their characteristics and compatibility.

Phase 2. Diagnostic and Social Skills Evaluation: after the first informative meeting, the neuropsychiatrist administers to the participants a set of assessment tools to evaluate their social and relational skills (time 0). The evaluation will be repeated at the end of the treatment (time 1), after 3 months (time 2), after 6 months (time 3), and after 12 months (time 4).

Phase 3. Interview: according to the qualitative methodology, the evaluation continues with interviews of ASD youth and their parents/caregivers. The interviews are conducted by the psychotherapist; the filmmaker can integrate any questions at the end. All the participants are evaluated individually. The interviews last on average 60 minutes for the parents and 20/30 minutes for the ASD youths, to collect data on the family system and dynamics and to explore the categories shown in Table 1.

Table 1. Categories of interviews

Categories	
Children/adolescents	Parents
• Perception of self	• Parents' perception of themselves and of their parental role
• Relationship with the parents	• Parents' perception of their own child
• Friendships and relationships with peers	• Family and couple's dynamics
• Relationship with teachers and classmates	• Relationships with associations, school, and teachers
• Relationship with relatives and friends	• Relationships with relatives

Phase 4. Family System's Inspection: after the first assessment, the filmmaker and the psychotherapist lead an on-site video-recorded inspection at the

participant homes. During this phase, the child and the parents are encouraged to describe their everyday life. The on-site inspection aims to create a therapeutic alliance between the team and the family and collect data about the family system and its dynamics. The videotaped materials are used to create short films, defined as “Video-Medications”, which show some of the principal characteristics of the family system, the child-parent relationships, the core symptoms of the “autistic family” and the strengths of both parents and child. This phase lasts one day.

Phase 5. Documentary Videotherapy and Parent Training: the parent training is composed of 4/5 meetings, distributed for two months, and aims to guide the parents in implementing their educational strategies and promoting the family's well-being. These sessions are based on shared objectives between parents and the psychotherapist and involve behavioral tasks to realize at home between sessions. During the parent - training, the psychotherapist uses Video-Medications as a Documentary Videotherapy technique. The Video-Medications could be the same or different per session, according to the situation. The psychotherapist asks the participants to comment and interact with the video.

Phase 6. Therapeutic Filmmaking and Parent Training: the pair of ASD children, selected during phase 2 (preliminary evaluation), works together to realize their movie, becoming screenwriters, filmmakers, and editors. First, they receive technical information from the filmmaker on the procedures and methods used to realize audiovisual products and behavioral indications by the psychotherapist. Secondly, the children pair proceed to create a storyboard, to shoot, and edit their movie. This phase leads the participants to interact with the outside and with their context, according to the written story. The children are supported by the filmmaker and the psychotherapist during the storyboard creation, the shooting, and the editing procedures. The psychotherapist facilitates the interaction and the interpersonal exchanges between peers, intending to enhance the personal objectives and strengths of the children and to improve peers' relationship. In this phase the parents maintain a role of logistic support, helping and encouraging their children.

Phase 7. Cinematherapy and Documentary Videotherapy: children and their parents watch the movie realized by the children's pair in a movie theatre. This moment emphasizes the main behavioral changes that happened in children during the trial. The strong heterotopic location (movie theatre) stimulates the sharing of feelings and emotions among children and parents. Furthermore, they are actors and filmmakers contemporarily and this leads the parents to experience themselves as

spectators of their children’s work. In this phase, the psychotherapist deepens the feelings and emotions of the participants, reinforcing them with supportive feedback. Watching the movie inside a real theatre crowns the end of the therapeutic process, not only of a couple of peers but also of the parental couple, who at this stage has concluded its parent training and brings with it a more mature and flexible vision of their family system. After a week, both the couple and the child (separately) review the same short film in the office of the psychologist-psychotherapist, sharing thoughts and emotions about the contents and experiences. At the end of this Documentary Videotherapy meeting, the children receive a DVD containing their film with the indication to watch it when they feel the need.

First follow-up: after one month from the last meeting of Documentary Videotherapy, the team administers the tests and conducts the interviews with the participants. The first follow-up aims to evaluate the progress and the outcome obtained during the therapeutic process and to identify strategies to maintain during the last phase of psychological support.

Phase 8. Psychological Support: this phase consists of two meetings with the parents and the child, separately, lasting 30 and 20 minutes respectively. During these meetings, the psychotherapist and the filmmaker administer another Video-Medication containing the audiovisual material collected during the clinical trial, together with the footage shot by the participants during the Therapeutic Filmmaking. This Video-Medication, using images of different quality and authorship, aims to maintain the results obtained during the therapeutic process and to reinforce the positive outcomes of the children and the family system.

Others Follow-up: Three months after phase 8 the team conducts the second follow-up; additional follow-up is conducted after six and twelve months, as detailed in Table 2.

Table 2. Follow-up

Follow up			
I	II	III	IV
Duration			
1 month after the phase 7	3 months from phase 8	6 months	12 months
Method			
two meetings: (a) test (b) interviews	two meetings: (a) test (b) interviews	two meetings: (a) test (b) interviews	two meetings: (a) test (b) interviews

Table 2. Follow-up - *continued*

Follow up			
I	II	III	IV
Aim			
Evaluating the progress of the participants and the outcome obtained during the therapeutic process.	Evaluating the maintenance of the results obtained by the family system and the child	Evaluating the maintenance of the results obtained by the family system and the child	Evaluating the maintenance of the results obtained by the family system and the child

Evaluation tools

1. Tools for ASD youths

Test for preliminary evaluation

WISC-IV-Wechsler Intelligence Scale for Children Fourth Edition (Wechsler, 2003; Orsini, Pezzuti, & Picone, 2012) is a standardized clinical and diagnostic tool for assessing the intellectual abilities of children from 6 to 16 years. The measure is composed of 15 sub-tests (10 main sub-tests and 5 additional sub-tests). From the scores obtained in sub-tests, standardized by age, WISC-IV generates a Total Intelligence Quotient score (TIQ) and four partial scores, that evaluate specific cognitive domains: Verbal Understanding Index (VUI), Visual-perceptual Reasoning Index (PRI), Working Memory Index (WMI), Processing Speed Index (PSI)]. All the raw scores are converted into age-weighted scores, according to normative data; age-weighted scores ≤ 70 is considered under the norm ($m=100$; $SD=15$).

ADOS-2 - Autism Diagnostic Observation Schedule-Second Edition (Lord et al., 2012; Colombi et al., 2013) is a standardized and semi-structured assessment for individuals with Autism Spectrum Disorder that measures communication, social interaction, and repetitive/stereotyped behavior. ADOS-2 can be administered through one of the following five modules, chosen according to the age and verbal skills of the subjects: Module Toddler for children aged <30 months; Module 1 is used in non-verbal children or in children who use only few words to communicate; Module 2 is used in children who can pronounce sentences but do not have a fluent language; Module 3 is for younger subjects who are verbally fluent and Module 4 is used in adolescents and adults who are verbally fluent. All observed behaviors are assigned a score from 0 to 2 (the score of 2 has greater severity). The sum of the different scores is compared with cut-offs scores

for the Autism Spectrum Disorder symptoms, which differ according to the Module considered.

Test for preliminary evaluation and follow-up

SAFA-Scale Psichiatriche di Autosomministrazione per Fanciulli e Adolescenti (Cianchetti & Fancello, 2001) is an Italian standardized self-administration tool, that explores a wide range of symptoms in internalizing disorders. The test consists of 6 scales for the evaluation of: anxiety (SAFA-A), depression (SAFA-D), obsessive-compulsive symptoms (SAFA-O), psychogenic eating disorders (SAFA-P), somatic symptoms and hypochondria (SAFA-S) and phobias (SAFA-F). Each scale is standardized for age groups: 8-10 years ("e"); 11-13 years ("m"); 14-18 years ("s"). Raw scores are converted to age-weighted T-scores. T scores > 70 are considered clinically significant.

EQ - Empathy Quotient for Adults (Baron-Cohen & Wheelwright, 2004) is a self-report for individuals with Autism Spectrum Disorder Level 1 of 16 years old and older. The EQ short form is composed of 40 items, it is Likert format ("strongly agree", "somewhat agree", "partially disagree", or "strongly disagree") and evaluates the main components of empathy: recognition and response. Results are interpreted according to the following range: ≤ 27 very low, 28-36 low, 37-43 average, 44-53 above the average, ≥ 54 super empathic.

NEPSY-II - A developmental NEuroPSYchological Assessment (Korkman, Kirk, & Kemp, 2007; Urgesi, Campanella, & Fabbro, 2011) provides a neuropsychological assessment of the cognitive abilities of subjects from age 3 to 16 years. The tool is composed of 33 tests, refer to 6 different cognitive domains: Attention and Executive functions (7 tests), Language (7 tests), Memory and Learning (7 tests), Sensorimotor functions (4 tests), Social perception (2 tests) and Visuospatial processing (6 tests). Specifically, the Social perception domain provides an assessment of the ability to identify facial expressions (Emotional Recognition), decoding and interpreting the intentions (or feelings) and the point of view of others (Theory of Mind). Raw scores are converted to age-weighted scores. The <4 scores are considered under the norm (m=10; SD=3).

2. Tools for parents/caretakers

Test for preliminary evaluation

ADI-R-Autism Diagnostic Interview - Revised (Rutter, Le Couteur, & Lord, 2003; Faggioli et al., 2005) is an interview for parent/caretaker of children and adults with suspicion of autism (mental age > 2 years). The interview aims to

obtain detailed information for autism diagnosis (designed to be used in combination with the Autism Diagnostic Observation Schedule-ADOS). It focuses on three areas of behavior: Language and Communication; Mutual Social Interaction; Stereotyped behaviors and restricted interests. The interview includes 93 items to which can be attributed a range of score from 0 to 2 (the score of 2 has greater severity). The sum of different scores is compared with cut-offs scores for the Autism Spectrum Disorder symptoms, which differ according to the age.

Test for preliminary evaluation and follow-up

VINELAND II Vineland Adaptive Behavior Scales-II – Second Edition (Sparrow, Cicchetti, & Balla, 2005; Balboni, Belacchi, Bonichini, & Coscarelli, 2016) is designed to evaluate adaptive behavior of individuals from birth to adulthood according to 5 domains: Communication, Daily Living Skills, Socialization, Motor Skills, and Global Adaptive Behavior. Each domain contains 2-3 subdomain. For each question is assigned a score from 0 to 2 (0=never, 1=sometimes, 2=always). Raw scores are converted to age-weighted scores <70 scores are considered under the norm (m=100; SD=15).

CBCL - Self-report questionnaire for parents “Child Behavior Checklist – 6-18” (Achenbach & Rescorla, 2001; D’Orlando, Grassi, & Di Blasi, 2010) is a standardized questionnaire for parents/caretakers. This test aims to assesses children behavior according to the following areas: Internalizing Problems, Externalizing Problems, Total Problems, and allows to evaluate empirically based syndrome scales as anxious/depressed, withdrawn/depressed, somatic complaints, social problems, attention problems, rule breaking behavior, aggressive behavior. The test follows these DSM-oriented scales too: depressive problems, anxiety problems, somatic problems, attention deficit/hyperactivity problems, oppositional defiant problems, conduct problems. Raw scores are converted to age-weighted T-scores. >70 t-scores are considered clinically significant.

SCQ - Self-report questionnaire for parents Social Communication Questionnaire (Rutter, Bailey, & Lord, 2003; Cianchetti & Fancello, 2007) is a standardized questionnaire for parent/caretaker and aims to evaluate communication, social and relational skills of children with ASD from age 4. There are two forms (life span and last 3 months), both of 40 items with dichotomous response "Yes"- "No", which score from 0 to 1. >15 scores are considered clinically significant.

SRS - Social Responsiveness Scale (Constantino & Gruber, 2005; Zuddas et al., 2010) is a standardized questionnaire for parents/caretakers to assesses mutual social behavior, communication, and repetitive and stereotyped behaviors in children of 4-18 years old. It consists of 5 subscales divided as follows: social awareness; social cognition; social communication; social motivation; mannerisms of the autistic type. Each subscale comprises several questions scored from 0 (not true) to 3 (almost always true). Scores between 60 and 80 indicate a clinically significant deficit in mutual social behavior e such as to interfere in everyday life.

SDQ - Strengths and Difficulties Questionnaire (Goodman, Meltzer, & Bailey, 1998; Tobia, Gabriele, & Marzocchi, 2013) is a brief behavioral screening questionnaire for parents and teacher that aims to evaluate child's behavior (4-16 years old) in relation to the following 5 areas: emotional symptoms, conduct problems, inattention/hyperactivity (ADHD), peer relationship problems and prosocial behaviors. Each area is composed by 5 items, for a total of 25 items, that are measured with a 3 value Likert scale: "Not true" (0), "Somewhat true" (1), "Certainly true" (2). A total score on the difficulties is obtained from the four subscales that evaluate problematic behaviors, excluding the scale of prosocial behaviors which provides a measure of the child's strengths.

PSI-4 - Self-report questionnaire for parents "Parental Stress Index" (Abidin, 2012; Guarino et al., 2016) is a standardized questionnaire for parent/caretaker and measures the level of stress in the dyadic parent-child. The short form of PSI-4 (PSI-4-SF) is made up of 36 items, organized into five subscales: parental distress, dysfunctional parent-child interaction, difficult child, defensive response, and total stress. Raw scores are converted in percentiles. A score $\geq 85^{\circ}$ percentiles is considered clinically significant.

EQ-C - Children's Empathy Quotient (Auyeung, Wheelwright, Allison, Atkinson, Samarawickrema et al., 2009; Baron-Cohen, 2012) is a 27-item parent-report questionnaire designed to assess empathy among children with Autism Spectrum Conditions aged 5-11 years old. The questionnaire involves a list of statements about daily life and situations in which empathy is required. The questionnaire is Likert format "definitely agree", "slightly agree", "slightly disagree", or "definitely disagree". Results are interpreted according to the following range: ≤ 27 very low, 28-36 low, 37-43 average, 44-53 above the average, ≥ 54 super empathic.

EQ - The Adolescent Empathy Spectrum Quotient (Auyeung, Allison, Wheelwright, & Baron-Cohen, 2012) is a parent-report 40-item questionnaire,

designed to assess empathy among adolescents with ASD from age 12 to 15. The questionnaire involves a list of statements about daily life and situations in which empathy is required. The questionnaire is Likert format “definitely agree”, “slightly agree”, “slightly disagree”, or “definitely disagree”. Results are interpreted according to the following range: ≤ 27 very low, 28-36 low, 37-43 average, 44-53 above the average, ≥ 54 super empathic. Table 3 summarizes the administration of tests according to aim and timing:

Table 3. Tests protocol

<i>Preliminary evaluation</i>				
Recipient	Test	Focus	Administration	Time
Children	WISC-IV	Cognitive profiles	neuropsychiatrist	65'-80'
	ADOS-2	Diagnosis of ASD	neuropsychiatrist	40'-60'
Parents/Caregivers	ADI-R	Diagnosis of ASD	neuropsychiatrist	120'
<i>Preliminary evaluation and follow-up</i>				
Recipient	Test	Focus	Administration	Time
Children	NEPSY-II	Emotion recognition and theory of mind	neuropsychiatrist	15-30'
	SAFA	Anxiety and mood problems	self-report	15'-20'
	EQ	Empathy	self-report	10'
Recipient	Test	Focus	Administration	Time
Parent/Caregiver	VINELAND II	Adaptive skills	neuropsychiatrist	30'-60'
	CBCL	Emotional-behavioral problems	self-report	15'-20'
	SCQ	Socio-communicative skills	self-report	10'
	SRS	Socio-relational skills	self-report	15-20'
	SDQ	Behavioral and emotional difficulties in childhood	self-report	10'-15'
	PSI-4	Parental stress	self-report	10'
	EQ-C	Empathy in children	self-report	10'
EQ-A	Empathy in adolescents	self-report	10'	

Therapeutic tools

Video-Medication

The Video-Medication is an audiovisual montage composed of different types of footage collected during the therapeutic process. Its contents, structure, and composition modes vary depending on the specific phases and objectives of the clinical trial.

During Documentary Videotherapy (Phase 5), the video-therapeutic team creates a first Video-Medication to show the participants their current situation, family dynamics, strengths, and critical issues. This Video-Medication derives

from a careful selection of the contents made by the filmmaker and the psychotherapist that identify one or more target behaviors (social or adaptive) to work on them. This selection is based on footage that includes the interviews and the on-site filmed inspection. The Video-Medication is methodologically structured to promote reinforcement for positive behaviors (video self-modeling).

During Cinematherapy (Phase 7), instead, the Video-Medication substantially correspond with the movie created by the children, derived by the following process: 1) Concept-Choosing the plot, the genre, the main characters, and the message of the movie- 2) Screenwriting-Putting together the script and dividing the storyboard into scenes- 3) Shooting-Shooting the scenes with the help of the video-therapeutic team- 4) Post-production-Assembling the scenes to realize the final movie, with the support of the team.

The movie theater constitutes the place in which the creative process successfully comes to fulfillment. This actual heterotopic setting gains the power to validate the represented story, transforming it from narration to reality. Such Video-Medication, entirely made from images realized and selected by the children, does not include audiovisual footage shot by the filmmaker but is assembled and selected by the young participants by themselves. Therefore, the children, now “audience” and not single spectators, confront the results of their own creative choices and see how these choices impact them and their parents.

During Psychological Support (Phase 8), the last Video-Medication has an even different appearance and function. This video is made up of audiovisual footage of mixed nature and authorship and describes the entire experience of the participant. The final goal of this audiovisual product is to maintain the main results obtained during the clinical trial. This Video-Medication is an assemblage of the images recorded by both the children and the filmmaker. Such peculiar composition reinforces the positive feeling of the parents about the strengths of their children. In these types of Video-Medications, Video-Modeling and Cinematherapy methodologies interact with audiovisual therapeutic approaches, representing different ways to create and communicate their self-representation.

Strategic psychotherapy

Strategic Therapy integrates the Video-Medication according to the followings procedures and methods: (a) viewing; (b) discussion and in-depth analysis in which the participants, guided by the therapist, show emotions and thoughts and some important aspects of their behavior and their psychological

dynamics; (c) interaction with the Video-Medication, or “interactive play” during which is possible involve the team to participate, according to the situation; (d) at the end of the session the Video-Medication could be used to give prescriptions, as a bond between the therapeutic setting and the participant's reality.

Parent training

The parental couple defines the principal family's goals to be achieved, together with the therapist. Parent training aims to improve educational and parental skills by giving parents specific tasks to educate children functionally and respecting the shared and co-constructed needs of the family members. Video-Medications reinforces prescriptions of behavior, making aware a parental couple of the family dynamics. Parent training sessions aim to acquire tools for manage the family's distress, complementary to the disorder. Parents can use these tools after the training in the form of prescriptions given by the therapist. Thus, these become part of the family system and its dynamics.

Results analysis

Data analysis consists of quantitative and qualitative methods, to evaluate the results of the tests and the interviews with the aim to compare them before and after the treatment, evaluating the efficacy of the protocol and compare parental couples and children.

The neuropsychological scores of quantitative analyses are expressed as $m \pm SD$. The percentage of participants scoring lower than the norm ($< 2 SD$) is considered. To verify the data distribution, the Kolmogorov-Smirnov normality test is preliminarily performed. Because we expect the presence of some data not normally distributed, we employ a non-parametric test for our analysis.

The comparison of proportions is made using the Chi-Square test. The mean scores comparison is performed using the Wilcoxon signed-rank test (paired samples) or the Mann-Whitney U test (independent sample). The Kruskal-Wallis H test is used for multiple comparison of mean scores in several independent samples; the Friedman test is used for multiple comparison of mean scores in several paired samples.

The two-tailed Spearman rank correlation test and multiple linear regression analysis are employed to evaluate the relationship between different variables.

All data were analyzed using Statistical Package for Social Science software (Version 25.0, SPSS Inc., Armonk) (IBM Corp. Released, 2017); p-values less than or equal to 0.05 are considered statistically significant.

Quantitative results will be compared with the interviews, psychotherapeutic sessions, and parent training analyzed through qualitative analysis software RQDA (Computer Assisted Qualitative Data Analysis Software) (Huang, 2014). The videotaped and transcribed materials (based on the Jefferson Transcription System guidelines) (Jefferson, 2004) are analyzed separately and compared.

The process consists of different phases of analysis.

First, the researchers read and interpret the text, using an initial encoding procedure to create thematic categories. These topics represent the principal issues of the transcriptions. Researchers elaborate conceptual statements or categories (employed as common codes), to proceed towards a more complex construction related to the phenomenon, facilitating the interpretation of the text and contextualize it.

For instance, the personal perception of the parents about their parenting abilities; the children's idea on the relationship with peers, or on the autism spectrum disorder. Another example could be the feeling of the parents to be not able to manage the disorder of the child that could be useful in structuring supportive parental programs; also, the emersion of specific dynamics that characterize the family system can provide information about the dysfunctional behaviors which influence children's conduct.

Secondly, the researchers apply an analysis based on natural language processing systems, using text mining techniques based on unstructured texts extracted and converted in a structured form according to the context (Abelson, 2008). In the present research, these techniques allow evaluating family education, level of well-being among the family members, children's social skills, and other aspects, with the aim to promote specific interventions based on the emerged categories and used words. Also, they allow the integration of a quantitative analysis approach, such as correlation or regression, with a comparative one concerning parental couples of participants, gender, age, and backgrounds of both parents and children.

For example, mothers might have a higher tendency to experiment anxiety toward their children. Fathers might be more open-minded in leaving their sons free to explore social situations without any interference or help. Also, younger

children could be more competitive than older in reporting their perception of self and peer relationships.

Lastly, the researchers use sentiment analysis (Lei & Liu, 2021), a language analysis that evaluates the participant's experiences according to the emerged sentiments of the interviews and the psychotherapeutic sessions. Sentiment analysis consists of labeling sentences or paragraphs of the analyzed text as positive, negative, or neutral, extracting specific emotions from the text. Sentiment analysis could be based on an evaluation of the whole text or in specific identified parts. In our research, texts are extracted and polarized in a list of positive and negative words with an assigned score. Then, the results are aggregated to have a final output to interpret.

Finally, the team observations and notes are subjected to qualitative analysis and integrated into the results, following the Grounded Theory approach-GT (Glaser & Strauss, 1967). According to the GT, the analytical process consists of coding data, verifying, and integrating theoretical categories, and writing analytical narratives through investigation. The qualitative methods, together with the quantitative analysis, provide a wide range of possible interpretations of collected data and improve the possibility to evaluate ASD perception by the family system.

Our method evaluates the results considering the link between the context and the field of the research. Indeed, the same disorder can differently affect the participants and, an integrated method could capture these differences.

Conclusions and future perspectives

The study as presented features several novelties: a) it operates a distinction between therapeutic audiovisual techniques that have been indistinctly subsumed under the term Cinematherapy; b) it proposes a definition of each technique on the grounds of the modes of administration of the treatment (Cinematherapy, Filmtherapy, Documentary Videotherapy, Therapeutic Filmmaking); c) it elaborates a therapeutic methodology and protocol combining different audiovisual techniques in an unprecedented mode; d) it integrates participative and performative documentary practices and self-representational theoretical and applicative frames, enhancing medical humanities application; e) it consists in an integrated method that involves cinematic language and Strategic Psychotherapy techniques.

The research protocol achieves the main goals of enhancing social and interactive skills in young ASD participants, through creative and participative use of the audiovisual medium. Indeed, the self-representational and creative process leads the participants to gradually acquire a higher self-awareness and adaptive skills to improve their quality of life in the social and familial context. These improvements reduce dysfunctional behaviors of ASD participants and promote the well-being of the family system.

The cinematic dispositive functioning and the audiovisual language are integrated into the Strategic Psychotherapy approach in a co-shared and co-build psychological path. The sharing of objectives is the principal element for change and fosters a proactive intervention in ASD participants' life, facilitating the interaction and cooperation with others - such as parents and peers. According to the strategic approach and the methodology proposed, the parental couple can facilitate changes, reducing dysfunctional behaviors in children and mediating the positive interaction between children and social context. Parent training sessions integrate the audiovisual and psychotherapeutic tools, reducing parental stress and burnout. This framework allows the involvement of the entire system as "co-responsible" of changes and bearer of each member's well-being.

Our method determines the effectiveness of its results, drawing its strength from the integration and the reciprocity between different but similar languages and techniques and encouraging the participants to be an active part of their therapeutic process as main characters and "directors" of their own life and treatment.

Given the complexity of the presented protocol, we outline the following improvable issues and limits: a) develop families' compliance to the therapeutic process; b) availability of the sample according to the protocol criteria; c) preserve the achieved therapeutic goals along the follow-up process; d) training of therapeutic team according to the described methodology and techniques.

Future development should extend the analysis to a higher number of participants to evaluate the effect of Therapeutic Filmmaking, Cinematherapy, and Documentary Videotherapy on this specific disorder, promoting the psychological well-being of ASD youths.

Ethics statement

The protocol was approved and validated by the Institutional Review Board of the Department of Human Sciences, Society and Health, University of Cassino and Southern Lazio (Italy), and the Ethics Committee Campania Sud of the University of Salerno (Italy). In accordance with the Declaration of Helsinki, all participants gave written informed consent for their participation in the study.

Declaration of conflicting interests

The author declares no potential conflicts of interest.

Author contributions

ACS, VS, GMGP, GC designed the study, ACS, VS, GMGP, wrote the manuscript; GC, FF, FP, VV and FFO revised and supervised the manuscript.

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