RIFL (2025) numero 3: 24-37
ISSN 2036-6728 DOI: 10.4396/20250308

Embodied Creativity. An Epistemic Inquiry into Schizophrenia and Autism

Alessandra Falzone
University of Messina
alessandra.falzone@unime.it

Antonino Bucca
University of Messina
antonino.bucca@unime.it

Paola Pennisi
University of Messina
paola.pennisi@unime.it

Joel Osea Baldo Gentile
University of Messina
joelosea.baldogentile@unime.it

Valentina Cardella
University of Messina
valentina.cardella@unime.it

Abstract This contribution introduces the notion of "embodied creativity" in light of the psychopathological conditions of autism and schizophrenia, understood not as deficits but as embodied variations of subjectivity. Starting from the structural limitations of standard definitions and psychometric tools, the paper offers a critical analysis of quantitative evidence on divergent thinking in neurodivergent populations, integrating it with a phenomenological and aesthetic reading of creative practices. While autism manifests a systematic, perceptual, and hyper-detailed creativity, schizophrenia gives rise to expressive configurations that elude ordinary criteria of utility, yet reveal a cathartic and symbolic potential. In both cases, creativity emerges as an embodied and situated mode of exploration, inscribed in specific body–environment configurations. The paper argues that the epistemic investigation of autism and schizophrenia challenges the implicit universality of normative models and expands the very concept of creativity toward heterogeneous and transdisciplinary territories. From this perspective, embodied creativity is not a pathological deviation but an alternative form of knowledge that questions our categories of meaning, subjectivity, and otherness.

Keywords: embodied creativity, divergent thinking, schizophrenia, autism, neurodivergence

Received 16/07/2025; accepted 05/01/2026.

0. Introduction

Creativity is one of the most distinctive manifestations of the *Homo sapiens* species. Often regarded as a hallmark of uniquely human cognitive functions, from the faculty of language (Chomsky 1976, Pennisi & Falzone 2020), to problem-solving (Guilford 1975), and even artistic expression (Amabile 1982), creativity has been identified as a mode of thinking that diverges from the norm and is therefore closely intertwined with those forms of mental alteration commonly referred to under the label of "madness." This relationship has shaped the very definition of creativity, becoming a persistent stereotype within Western culture (Paolucci 2017).

This contribution proposes a definition of embodied creativity through a critical reflection on creativity in two psychopathological conditions: autism and schizophrenia. These conditions are not approached as deviations from the norm, but rather as epistemic cases capable of questioning and redefining the very categories of creative thought. The underlying hypothesis is that autism and schizophrenia do not merely represent cognitive deficits, but rather embodied variations of subjectivity, capable of generating alternative modes of exploration and sense-making (Gallagher 2004; Fuchs 2015; De Jaegher 2013). Through a detailed analysis of quantitative evidence and a phenomenological reading of expressive processes, this paper will show that traditional normative tests are insufficient to grasp the complexity of creative practices in neurodivergent and psychotic individuals. Instead, it proposes a model of "embodied creativity", in which this process is understood as distributed and situated, emerging from the dynamic interaction between body, environment, and socio-cultural norms (Frith & Miller 2024; Qela et al. 2025).

The embodied creativity of autism, grounded in perceptual hyper-focus and systematic symbolic structures, stands in contrast to schizophrenic productions, marked by a breakdown of the acting body and forms of dissociated expression. In both cases, however, what emerges is a divergent mode of being-in-the-world that challenges epistemic normativity and questions the implicit assumption of universality behind psychological metrics. The aim of this contribution is thus twofold: on the one hand, to highlight the limitations of standardized evaluative paradigms in defining cognitive abilities within psychopathology; on the other, to define creativity as an embodied process, through a description of the relationship between creativity and psychopathological conditions grounded in the bodily and experiential relation to the world.

1. The tools for creativity assessment

In contemporary debates on creativity, the very notion of the creative act appears both indispensable and elusive, subject to divergent definitions and often irreconcilable methodological approaches (Plucker et al. 2004; Runco & Jaeger 2012; Cropley 2020). Although minimal consensus exists around certain criteria (such as novelty, relevance, and effectiveness), creativity continues to resist any univocal definition, positioning itself at the crossroads of cognitive processes, social configurations, and embodied dimensions of subjectivity (Amabile 1982; Sternberg & O'Hara 2000; De Pisapia & Rastelli 2022). This definitional instability inevitably affects the instruments of measurement, which – despite claims to psychometric objectivity – often end up overlooking the atypical and embodied forms of symbolic production.

One of the pioneers of creativity studies from a cognitive perspective, Torrance (1977), identifies the main components of this type of process: originality (the novelty of the result), fluency (the number of relevant responses to a given problem), flexibility (the ability to overcome functional fixedness), and elaboration (the level of detail in the solution). Guilford (1975) also conceives of the creative process as a particular form of

problem-solving, in which divergent thinking – i.e., thinking that aims to explore multiple possible solutions to an open and ill-defined problem – plays a particularly important role. Guilford's model remains dominant today, especially in its view of the creative process as an interaction between two modes of thought: the controlled and analytical (convergent thinking), and the spontaneous and associative (divergent thinking) (De Pisapia & Rastelli 2022). The most commonly used tests for identifying the creativity of a process are those that assess divergent thinking (Kaufman et al. 2007; Plucker et al. 2011; Zeng et al. 2011), particularly the Torrance Test of Creative Thinking (Torrance 2008), the Wallach-Kogan Creativity Test (WKCT, Wallach & Kogan 1965), the Structure of the Intellect Divergent Production Test (SOI, Guilford, 1967), the Remote Association Test (RAT, Mednick 1962), and the Creativity Assessment Packet (CAP; Williams 1980). The general structure of divergent thinking tests involves administering problems that require participants to generate as many responses as possible; these responses are then evaluated not only by quantity (i.e., fluency), but also by quality, measured in terms of originality (statistical rarity), flexibility (belonging to different categories), and elaboration (level of detail) (Plucker et al. 2011; Jauk et al. 2014). Among all such tests, the most widely used is the Torrance Test, explicitly designed to identify particularly gifted or creative children and young students.

Finally, another perspective that can be applied to creativity is the person-centered one. Over the past sixty years, numerous studies have analyzed those personality traits (characteristics, attitudes, preferences, styles) that distinguish creative individuals from the 'masses'. These studies have identified a wide range of variables associated with the creative personality, such as self-esteem, risk-taking, perseverance, intuition, flexibility, independence, curiosity, aesthetic sensitivity, introversion, tolerance of ambiguity, and emotional instability (Barron & Harrington 1981; Feist 1998; James & Asmus 2000-2001; Runco 2007; Selby et al. 2005; Carson 1999; Davis 1999; Harrington 1999; Plucker & Renzulli 2009; Wechsler 2008). An essential element for creative personalities is undoubtedly motivation. Having some of the traits listed above does not in itself guarantee creativity: what matters most is the desire to be creative (Amabile et al., 1996). Some studies suggest that creative individuals are intrinsically motivated – that is, they engage in activities or problem-solving not for external rewards but because they enjoy the process. Measures of creativity as a personality trait can be based either on external observation or on self-report questionnaires (Cropley 2000). Belonging to the first category is the Creativity Checklist (CCL, Johnson 1979), in which external observers rate people's behavior on a scale from 'never' to 'always', based on personal characteristics such as ingenuity, independence, resourcefulness, self-reliance, and preference for complexity. However, within this approach, the most widely used tests are self-assessment questionnaires. An example of a test in this category is the Creativity Styles Questionnaire (CSQ, Kumar et al. 1997), which measures seven dimensions: beliefs in unconscious processes, use of techniques, use of other people, orientation toward the final product, environmental control, superstition, and use of the senses. Participants are asked to rate their agreement on a scale from 1 to 5 with statements such as "When I get an idea, I become completely absorbed by it" or "I usually create new ideas by combining existing ones".

As can be seen from this brief overview, the methods used to measure creativity are highly diverse and, in many cases, difficult to compare. No single instrument appears capable of measuring creativity in its entirety. This aspect must always be kept in mind, especially, as we will see, when such tools are applied to the field of psychopathology.

2. The quantitative literature on creativity in autism and schizophrenia

As described in the previous section, defining precisely how creativity functions within the field of psychopathology is highly complex. Nevertheless, a systematic review and meta-analysis on creativity in autistic individuals (Pennisi et al. 2021) found that, overall, neurotypical subjects score higher on creativity tests. However, analysis of individual subcomponents reveals a more nuanced picture. Specifically, autistic individuals are significantly disadvantaged in fluency and flexibility, while showing no deficits – and in some cases even an advantage – in originality and elaboration. The latter refers to the ability to develop an idea in depth by enriching it with detail; originality, by contrast, measures the statistical rarity of responses. In open-ended contexts – and even in certain standardized tasks – autistic individuals outperform their neurotypical peers precisely in these two dimensions.

Another relevant finding concerns the format of the task: linguistically mediated tests (or those that nonetheless require verbal production) tend to yield better performance in autistic participants compared to visuographic tasks. Consistently, both linguistic development and nonverbal intelligence level are positively correlated with higher scores on creativity tests.

From 2021 to the present, empirical investigations directly comparing autistic and neurotypical creativity remain limited, and the quantitative results available so far confirm the general trend: in normative tests, the average scores of the autistic population remain lower than those of neurotypical individuals. Nonetheless, recent studies suggest more complex scenarios (see, for example, the study by Hetzroni et al. 2019) on general and mathematical creativity, in which autistic children showed a slight advantage over their neurotypical peers).

Taken together, these studies invite a reconsideration of the notion of creativity as applied to autism: while standardized tests to detect a deficit in fluency and flexibility, they fail to fully capture the originality and elaboration capacities that, in distinctive ways, characterize many individuals on the spectrum.

The quantitative literature on schizophrenia is more monolithic than that on autism. A meta-analysis by Acar and colleagues (2018) documents a clearly negative relationship between schizophrenia and performance on creativity tests: on average, individuals with schizophrenia score significantly lower than healthy controls. Although this gap is consistently unfavorable to patients, it varies according to several factors. First and foremost, the nature of the measurement instrument appears to play a decisive role: the disadvantage is greatest in tasks involving verbal *fluency* and semantic categorical *fluency*, while it is less pronounced – though still significant – in divergent thinking tasks and remote association tests. More generally, verbal tests prove to be more challenging for patients than nonverbal ones.

Moreover, clinical severity modulates the magnitude of the effect: chronic cases show the lowest performance, while acute or early/subacute onset cases display a more limited deficit. A similar pattern emerges when distinguishing between inpatients and outpatients: the former – presumably more severely affected – are the least creative.

It is worth noting, finally, that – unlike what has been observed in similar reviews on autism – in the meta-analysis by Acar et al. (*op. cit.*), all possible comparisons reveal a marked disadvantage for patients compared to controls. A more recent meta-analysis conducted by Pennisi et al. (*under review*), which applied even stricter inclusion criteria for the final sample, confirms this trend. Quantitative data thus converge in indicating that schizophrenia entails, at least in standardized tests, an impairment in creative capacity.

3. Creativity in autism

Many authors who have investigated autism question the validity of applying normative creativity tests to this neurodevelopmental condition. Ilona Roth (2020), for example, challenges the assumption that autism entails a creative deficit: many individuals on the spectrum, she argues, exhibit "another" form of creativity – systematic and perceptual – which the dominant culture struggles to recognize for three main reasons. First, the ability to reproduce reality with precision is mistaken for mere photographic memory, thereby obscuring its expressive value. Second, autistic art is often relegated to labels such as *outsider art*, which symbolically distance it from the canon. Third, the repetition of subjects or the absence of metaphor is presumed to indicate rigidity, whereas these may actually represent deliberate stylistic choices.

Alongside this critique, several authors warn against the risk of essentializing the very notion of "autistic creativity." Lyons and Fitzgerald (2013), Craig and Baron-Cohen (1999), and Happé and Frith (2009) show that autism does not diminish creativity but rather alters its trajectory: from divergent exploration to the deep and coherent construction of a narrowly defined domain.

According to Thomas Fuchs's (2015) phenomenological perspective, autism entails a different temporal and spatial structuring of shared experience – a "rhythmic dissonance" that does not negate the possibility of connection, but configures it in an alternative way. Autistic subjectivity thus manifests not so much as a lack of empathy, but rather as a different form of openness to the other – one that requires practices of mutual attunement and a different grammar of encounter.

Hanne De Jaegher (2013), finally, with the concept of *participatory sense-making*, emphasizes that cognition is not an internal process, but a co-constructed, embodied, and situated activity. Even when social synchronization appears difficult, the autistic person actively participates in the production of meaning – only, they do so through alternative relational pathways that are not always recognized.

This implies that autistic creativity should not be viewed as a compensation for a deficient system, but rather as the original expression of a distinct world of meaning, coherent in its own internal logic. From this follows a precise philosophical claim: autistic alterity is not an obstacle to creativity, but a generative condition for new forms of exploration and articulation of meaning. Far from being measurable by neurotypical standards, these forms expand the very concept of creativity, challenging standardized criteria of flexibility, openness, and originality, and restoring value to depth, internal coherence, and the embodied resonance of experience.

These theoretical hypotheses find confirmation in the artistic practices of several authors on the autism spectrum, whose works embody alternative forms of meaning-making.

The visual works of Donna Williams offer an example of autistic creativity in an *embodied* key. Although characterized by a more evocative language and less bound to mimetic accuracy, they reveal a typical feature: the tendency to transform marginal or background elements into dominant compositional centers. This shift in visual focus expresses an idiosyncratic and embodied way of exploring the world, in which detail becomes the point of access to the overall meaning of the work.

The work of autistic artist Gilles Tréhin (2006) – the imaginary city of Urville – also perfectly embodies this logic. Tréhin began working on Urville in the 1980s, drawing inspiration from cities he particularly loved, such as Nice, Paris, and some American metropolises. Over the years, he has produced more than 300 perspective views of this fictional city, accompanied by detailed descriptions concerning the function of the buildings, architectural style, date of construction, and, in some cases, historical or cultural anecdotes. Tréhin's works are drawn freehand and display perspectival precision and three-dimensionality. The artist does not copy existing buildings but creates original

structures that blend architectural elements observed in the real world with his own inventions. The city of Urville is divided into neighborhoods, each characterized by specific urban functions, its own building density, and architectural styles coherent with the context. The entire urban representation follows criteria similar to those of an actual zoning plan, bearing witness to the systematic structure that governs his imagination.
In all these cases, autistic creativity does not appear as a deviation from a norm, but as a radically other expression: not oriented toward novelty for an audience, but generative of internal order, rhythm, coherence, and perceptual intensity. It is a form of visual and embodied thinking that opens new pathways for the conceptualization of meaning.

4. Creativity in schizophrenia

The evaluation of artistic creativity in individuals with schizophrenia paradigmatically reflects the question of genius in madness. In other words, can schizophrenic creative ecstasy be nourished by a psychopathological state?
Despite some evident tensions, poetic style, expressive-figurative talent, and artistic creativity more broadly have often appeared to be fueled by psychotic experiences. Indeed, Karl Jaspers observed that the productivity of mental illness is readily explained by the release of forces that were previously inhibited, that the illness removes this inhibition, and that from this comes the similarity with dream and myth and with the infantile psyche (Jaspers 2001). After all, the so-called "songs of night and fog" seem to be products of the playful manipulation of schizophrenic language – as do, in other ways, "baroque calligraphies", "drawing-languages", or "musical salads" (Piro 1992; Borgna 1981; Goss 2011).
On the other hand, the history of art offers an extensive repertoire of figures whose creative abilities were accompanied by the stigma of psychopathology: poets, painters, sculptors, musicians, philosophers, mathematicians, scientists, and so on. Thus, through the stereotype of creativity as a hallmark of eccentric personalities, common sense has, in a way, attempted to affirm the link between genius and madness.
Indeed, as is evident both in phenomenological literature and in recent studies on creativity in schizophrenia, creative talent can overlap with psychotic disorders without necessarily being defined by them. In other words, one can be both talented and mad without presupposing a necessary correspondence between the two phenomena. Consider, for example, Henri Bergson's (1996) notion of disorder of "attention to life," which is known to have inspired Eugen Bleuler's concept of "withdrawal from reality", Eugène Minkowski's idea of "loss of vital contact with reality", Wolfgang Blankenburg's theory of "loss of natural self-evidence", and led Pierre Janet to describe psychotic experiences in terms of a "loss of the feeling of reality". When vital contact with the world is lost, what remains for schizophrenic experience is, as Minkowski (1978) puts it, a retreat into "morbid rationalism".
Nevertheless, within early twentieth-century psychopathology, schizophrenic artistic creations were considered forms of *art brut* with distinct expressive styles (Volmat 1956; Sass 2013). Entire collections of paintings were housed in the so-called *Museums of madness* or in *ateliers* set up within the walls of psychiatric asylums – the collection of works by psychotic individuals at the psychiatric clinic in Heidelberg being particularly renowned (Prinzhorn 2004; Morgenthaler 2007; Andreoli 2009). Shortly after the attempt to identify specific forms of psychotic creativity, the so-called *psychopathologie de l'expression* instead began to interpret the symptomatic significance of expressions – especially visual ones – of madness (Bobon 1962; Maccagnani 1966). Beyond any purely artistic-creative consideration, today's "psychopathology of expression" tends to take the form of *art*

therapy and constitutes one of the most significant areas within the field of occupational therapies (Della Cagnoletta 2010).
Through their "creative" productions, individuals with schizophrenia attempt to draw on expressive devices of experiential signification in order to represent their delusional and hallucinatory experiences. Poetry, drawing, and painting seem to condense the symbolic drive of the schizophrenic imagination. However, these productions do not appear comparable to the creative or aesthetic outcomes of literary or visual talent, but rather to the expressive features of psychopathological manifestations. Thus, by employing iconic, pictorial, and poetic languages, those suffering from mental disorders attempt to project their delusional and hallucinatory experiences into "creative" representations, thereby redirecting their morbid imagination toward alternative expressive modalities.
Manic obsession and, more generally, psychotic manifestations can amplify the liberating and cathartic functions enabled by expressive languages. Beyond their cognitive and relational dimensions, in fact, language also assumes extraordinary importance for its emotional and cathartic functions – functions that, ultimately, make it the *vital*, species-specific device of the human animal (Bucca 2019).

5. An embodied-integrated approach to creativity

Quantitative psychiatry rooted in DSM/ICD overlooks the lived, experiential dimensions of schizophrenia, where meaning is expressed through language, imagery, and embodied self-experience. Phenomenological tools such as the Examination of Anomalous Self-Experience (EASE; Parnas et al., 2005), the Examination of Anomalous World Experience (EAWE; Sass et al., 2017), and the Examination of Anomalous Fantasy and Imagination (EAFI; Rasmussen et al., 2018) qualitatively explore linguistic disorders and alterations in imagery as expressions of a disturbance of core self-awareness grounded in bodily and motor experience. Rather than treating linguistic anomalies as errors, these interviews use metaphors, hesitations, and imaginative formations as traces of altered structures of consciousness. Cross-assessment studies show that imagination and self-disorders cluster together and differentiate schizophrenia from other conditions, supporting a non-reductionist, experiential understanding of psychopathology.
The gap between low psychometric scores and the vivid artistic productions of many autistic and schizophrenic individuals is not a statistical anomaly, but the symptom of a theoretical framework still bound to a disembodied conception of cognition. 4E approaches offer an alternative capable of reconciling quantitative data with clinical experience. In the context of autism, originality is rooted in meticulous perceptual probing, albeit often at the expense of conceptual flexibility. In schizophrenia, the predictive *breakdown* of the body-in-action generates productions that – though striking – struggle to meet the criterion of shared utility. In both cases, creativity emerges as a contingent outcome of the interaction between bodily constraints and environmental affordances, rather than as an isolated mental trait.
Recent literature converges in showing that creativity in autism and schizophrenia can only be understood when situated within a body–environment circuit governed by mechanisms of prediction and sense of agency, in line with the 4E approach. A recent experimental study on the embodiment of divergent thinking documents, for example, that the possibility of performing meaningful gestures modulates the originality of the ideas produced – especially in individuals who spontaneously gesture more – indicating that bodily movement functions as a *scaffold* for the search for unexpected solutions (Frith & Miller 2024).
As previously noted, in autism, recent research describes perceptual–motor *hyper-focus* as an attentional advantage that enables high-resolution visuospatial exploration (attention

to detail), though it may limit attentional and cognitive flexibility. This peculiar sensory tuning accounts for the "original but less fluent" profile observed in meta-analyses of standardized tests (Dupuis, 2022; Cancer et al. 2024). In schizophrenia, the disruption of interoceptive signals anchoring the sense of agency undermines the ability to assign pragmatic utility to one's productions, resulting in "*novel-but-useless*" ideas that are typical in many creativity assessment protocols (Koreki et al. 2024). The loss of the minimal bodily self (Gallese et al. 2024) leads, as a consequence, to an impaired capacity for relating to others, stemming from a lack of sensorimotor synchronization (Postmes et al. 2014; Tschacher et al. 2017). Sensorimotor anomalies in schizophrenia include disrupted temporal synchronization of stimuli, confusion between self-generated and externally guided actions (Hirjak et al. 2021), and lower levels of nonverbal synchrony during social interactions (Kupper et al. 2015). The proposal centered on bodily self-dysfunction focuses on the altered processing of multisensory and motor integration in schizophrenia, which prevents the formation of a pre-reflective bodily core necessary for the development of subjectivity. Reframed within the predictive coding model, an excess of perceptual precision in autistic individuals and a deficit of *priors-driven* precision in schizophrenic individuals uniquely distort the balance between bodily constraints and contextual affordances (Qela et al. 2025), causing creativity to oscillate between hyperspecificity and functional disconnection. From this perspective, creativity is not a disembodied mental product but a distributed process arising from the dynamic alignment of body, environment, artifacts, and social norms – exactly as suggested by the 4E cognition framework, which extends the notion of "creator" beyond the individual's head. Converging toward an embodied-integrated model entails understanding the "measure" of creativity as emerging from a specific body–environment configuration. Psychopathological diversity becomes a generative specificity that opens creative channels inaccessible to neurotypical configurations. To achieve this, scientific analysis must relinquish the positive value judgment commonly associated with the concept of creativity and instead explore the uniqueness and functionality of the process – functionality always embedded in the subject's phenomenological perspective, as well as in the relationship with the physical and social environment. In this sense, schizophrenic delusion is no longer the unmistakable sign of a manifest dysfunction, but rather the functional response to a disembodiment that fractures bodily identity even before psychic identity, and that finds a limit to dissonance only by admitting forms of alterity internal to the unity of sensorimotor agency.

The experimental enterprise itself is also transformed and no longer assumes the classical evaluative framework. The investigation of the sensorimotor specificities of neurodiversity and psychopathological conditions begins to take shape as a driving force for the construction of a framework that is undoubtedly more complex, but ultimately capable of revealing the qualitative processes of meaning-making – as illustrated in the examples presented in the preceding paragraphs.

6. Conclusions

The analysis of embodied creativity in autism and schizophrenia allows for the articulation of a crucial philosophical thesis: creativity is neither an abstract entity nor an isolated personality trait, but a dynamic and situated process that reflects specific bodily, perceptual, and relational configurations. From this perspective, neurodivergence is not a deviation from the norm, but an alternative form of meaning articulation – one that calls for a rethinking of the very categories through which we interpret creative agency (Fuchs 2015; De Jaegher 2013; Cardella 2018).

In the case of autism, creativity is expressed as a perceptual and systematic construction of the world, rooted in forms of hyper-specific attention and an original sensory grammar. In schizophrenia, by contrast, the loss of the sensorimotor unity of the bodily self gives rise to symbolic productions that, while exceeding standard criteria of utility, reveal a cathartic and testimonial dimension of the dissociative experience (Gallese et al. 2024; Koreki et al. 2024). In both cases, the creative element cannot be reduced either to the product or to the subject, but must be understood as the emergent outcome of a situated relationship between bodily constraints and environmental affordances.

This reinterpretation carries important theoretical and epistemological implications. First, it calls for the suspension of the normative judgment implicit in psychometric logics, opening the way to a valorization of forms of meaning that emerge from conditions of alterity. Second, it recognizes in psychopathology not merely a clinical object, but a domain of ontological exploration of embodied subjectivity – one capable of expanding our interpretative categories (Sass 2013; Minkowski 1978). Finally, it proposes a redefinition of creativity as a heterogeneous and plural phenomenon, whose understanding requires an ongoing dialogue between neuroscience, psychopathology, phenomenology, and aesthetics.

Future theoretical and clinical work should thus not aim at the normalization of neurodivergent forms of creativity, but rather at their full epistemic understanding. Autistic and schizophrenic creativity must be understood as opportunities for conceptual renewal: thresholds through which to rethink not only what counts as creativity, but also what counts as knowledge.

References

Acar, Selcuk, Chen, Xiao, and Cayirdag, Nur (2018), «Schizophrenia and creativity: A meta-analytic review», in *Schizophrenia research*, *195*, pp. 23-31.

Amabile, Teresa (1982), «Social psychology of creativity: A Consensual Assessment Technique», in *Journal of Personality and Social Psychology*, 43, pp. 997-1013.

Amabile, Teresa, Conti, Regina, Coon, Heather, Lazenby, Jeffrey, & Herron, Michael (1996), «Assessing the work environment for creativity», in *The Academy of Management Journal*, 39, pp. 1154-1184.

Andreoli, Vittorino (2009), *Il linguaggio grafico della follia*, Milano, Rizzoli.

Barron, Frank, Harrington, David (1981), «Creativity, intelligence, and personality», in *Annual Review of Psychology*, 32, pp. 439-476.

Bergson, Henry (1996), *Materia e memoria. Saggio sulla relazione tra il corpo e lo spirito*, Roma-Bari, Laterza.

Bobon, Jean (1962), *Psychopathologie de l'expression*, Paris, Masson.

Borgna, Eugenio (1981), «Fenomenologia della creatività schizofrenica», in *Rivista Sperimentale di Freniatria*, 105, 627.

Bucca, Antonino (2019), *The Cathartic Function of Language: The Case Study of a Schizophrenic Patient*, in A. Capone, M. Carapezza, F. Lo Piparo (eds.), *Further Advances in Pragmatics and Philosophy: Part 2 Theories and Applications*, Cham, Springer, pp. 549-560.

Cancer, Alice, Schiattone, Sara, Monfredini, Margherita, Antonietti, Alessandro, Colombo, Barbara (2024), «Creative performance and attitudes toward creativity in adults with autism spectrum disorder», in *Research in Autism Spectrum Disorders*, vol. 111, n. 102308.

Cardella, Valentina (2018), *Language and Schizophrenia. Perspective from Psychology and Philosophy*, London/New York, Routledge.

Carson, David (1999), *Counseling*, in Mark Runco & Steven Pritzker (Eds.), *Encyclopedia of Creativity*, San Diego, CA, Academic Press, pp. 395-402.

Chomsky, Noam (1976), *Reflections on Language*, Temple Smith, London.

Craig, Laime, and Baron-Cohen, Simon (1999), «Creativity and imagination in autism and Asperger syndrome», in *Journal of autism and developmental disorders*, 29, pp. 319-326.
Cropley, Arthur (2020), *Definitions*, in Mark Runco & Steven Pritzker (Eds.), *Encyclopedia of creativity* (3rd ed.), San Diego, CA: Academic Press, pp. 315-322.

Cropley, Arthur (2000) «Defining and Measuring Creativity: Are Creativity Tests Worth Using?», in *Roeper Review*, 2000, Vol. 23, No. 2, pp. 72-79.

Davis, Gary (1999), *Barriers to creativity and creative attitudes*, in Mark Runco & Steven Pritzker (Eds.), *Encyclopedia of creativity*, San Diego, CA, Academic Press, pp. 165-174.

Della Cagnoletta, Mimma (2010), *Arte terapia. La prospettiva psicodinamica*, Roma, Carocci.

De Jaegher, Hanne (2013), «Embodiment and sense-making in autism», in *Frontiers in integrative neuroscience*, *7*, 15.

De Pisapia, Nicola, Rastelli, Clara (2022), «Creativity as an information-based process», in *Rivista Internazionale di Filosofia e Psicologia*, 13 (1), pp. 1-18.

Dupuis, Annie, Mudiyanselage, Piyumi, Burton, Christie L., Arnold, Paul D., Crosbie, Jennifer, Schachar, Russell J. (2022), «Hyperfocus or flow? Attentional strengths in autism spectrum disorder», in *Frontiers in Psychiatry*, vol. 13, n. 886692.

Fuchs, Thomas (2015), «Pathologies of intersubjectivity in autism and schizophrenia», in *Journal of Consciousness Studies*, 22(1-2), pp. 191-214.

Frith, Emily, Miller, Stephanie E. (2024), «Creativity in motion: Examining the impact of meaningful movement on creative cognition», in *Frontiers in Cognition*, vol. 3, n. 1386375.

Gallagher, Shaun (2004), «Understanding interpersonal problems in autism: Interaction theory as an alternative to theory of mind», in *Philosophy, Psychiatry, & Psychology*, 11(3), pp. 199-217.

Gallese, Vittorio, Ardizzi, Martina, & Ferroni, F.(2024), «Schizophrenia and the bodily self», in *Schizophrenia research*, 269, pp. 152–162.

Goss, James (2011), «Poetics in Schizophrenic Language: Speech, Gesture and Biosemiotics», in *Springer Science*, pp. 1-17.

Guilford, Joy (1967), *The nature of human intelligence*, New York, McGraw-Hill.

Guilford, Joy (1975), *Creativity: A quarter century of progress*, in I. A. Taylor, & J. W. Getzels (Eds.), *Perspectives in creativity*, Chicago, Aldine, pp. 37-59.

Happé, Francesca, and Frith, Uta (2009), «The beautiful otherness of the autistic mind», in *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364. 1522, pp,1345-1350.

Harrington, Denis (1999), *Conditions and settings/environment*, in Mark Runco & Steven Pritzker (Eds.), *Encyclopedia of creativity*, San Diego, CA, Academic Press, pp. 323-340.

Hetzroni, Orit, Agada, Hila, and Leikin, Mark (2019), «Creativity in autism: an examination of general and mathematical creative thinking among children with autism spectrum disorder and children with typical development», in *Journal of autism and developmental disorders*, *49*, pp. 3833-3844.

Hirjak, Dusan, Meyer-Lindenberg, Andreas, Sambataro, Fabio, Fritze, Stefan, Kukovic, Jacqueline, Kubera, Katharina M., Wolf, Robert C. (2021), «Progress in sensorimotor neuroscience of schizophrenia spectrum disorders: Lessons learned and future directions», in *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, vol. 111, n. 110370.

James, Keith, Asmus, Cheryl (2000-2001), «Personality, cognitive skills, and creativity in different life domains», in *Creativity Research Journal*, 13, pp. 149-159.

Jaspers, Karl (2001), *Genio e follia. Strindberg e Van Gogh*, Milano, Raffaello Cortina Editore.

Jauk, Emanuel, Benedek, Mathias, Neubauer, Aljoscha (2014), «The road to creative achievement: A latent variable model of ability and personality predictors», in *European Journal of Personality*, 28, pp. 95-105.

Johnson, David (1979), *The Creativity Checklist*, Wood Dale, IL, Stoelting.

Kaufman, James, Lee, Joohyun, Baer, John, Lee, Soonmook (2007), «Captions, consistency, creativity, and the Consensual Assessment Technique: New evidence of reliability», in *Thinking Skills and Creativity*, 2, pp. 96-106.

Koreki, Akihiro, Terasawa, Yuri, Nuruki, Atsuo, Oi, Hiroki, Critchley, Hugo, Yogarajah, Mahinda, Onaya, Mitsumoto (2024), «Altered sense of agency in schizophrenia: The aberrant effect of cardiac interoceptive signals», in *Frontiers in Psychiatry*, vol. 15, n. 1441585.

Kumar, V.K., Kemmler, Debra, Holman, Riley (1997), «The Creativity Styles Questionnaire–Revised», in *Creativity Research Journal*, 10, 51-58.

Kupper, Zeno, Ramseyer, Fabian, Hoffmann, Hoger, Tschacher, Wolfgang (2015), «Nonverbal Synchrony in Social Interactions of Patients with Schizophrenia Indicates Socio-Communicative Deficits», in *PLOS ONE*, vol. 10, n. 12, pp. E0145882.

Lyons, Viktoria, and Fitzgerald, Michael (2013), «Critical evaluation of the concept of autistic creativity», in *Recent Advances in Autism Spectrum Disorders-Volume I*. IntechOpen.

Maccagnani, Gastone (1966), *Psicopatologia dell'espressione*, Imola, Galeati.

Mednick, Samoff (1962), «The associative basis of the creative process», in *Psychological Review*, 69, pp. 220-232.

Minkowski, Eugène (1978), *Il tempo vissuto. Fenomenologia e psicopatologia*, Torino, Einaudi.

Morgenthaler, Walter (2007), *Arte e follia in Adolf Wölfli*, Padova, Alet Edizioni.

Paolucci, Claudio (2017), «Sfuggire ai cliché. Gli stereotipi tra enciclopedia, enunciazione e soggettività nel linguaggio», in *Reti, saperi, linguaggi, Italian Journal of Cognitive Sciences* 2/2017, pp. 353-374, doi: 10.12832/88789

Parnas, Josef, Møller, Paul, Kircher, Tilo, Thalbitzer, Jørgen, Jansson, Lennart, Handest, Peter, Zahavi, Dan (2005), «EASE: examination of anomalous self-experience. Psychopathology», 38(5), p. 236.

Pennisi, Antonio, Falzone, Alessandra (2020), *The Extended Theory of Cognitive Creativity: Interdisciplinary Approaches to Performativity*. Springer, Cham.

Pennisi, Paola, Giallongo, Laura, Milintenda, Giusy, and Cannarozzo, Michela (2021), «Autism, autistic traits and creativity: a systematic review and meta-analysis», in *Cognitive processing*, *22*, 1-36.

Pennisi, Paola, Longo, Federica, Nicotra, Sara Alfia, Salehinejad, Mohammad Alì, Vicario, Carmelo Mario, Falzone, Alessandra Maria, (*in revisione*), «A Meta-Analysis and Systematic Review on Creativity in Schizophrenia: Toward an Ecological Understanding Integrating Clinical and Philosophical Perspetcives»

Piro, Sergio (1992), *Parole di follia. Storie di persone e linguaggi alla ricerca del significato e del senso*, Milano, FrancoAngeli.

Plucker, Jonathan., Beghetto, Ronald, Dow, Gayle (2004), «Why isn't creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research», in *Educational Psychologist*, 39(2), pp. 83-96.

Plucker, Jonathan, Qian, Meihua, Wang, Shujuan (2011), «Is originality in the eye of the beholder? Comparison of scoring techniques in the assessment of divergent thinking», in *The Journal of Creative Behavior*, 45, pp. 1-22.

Plucker, Jonathan, Renzulli, Joseph (2009), *Psychometric approaches to the study of human creativity*, in Robert Sternberg (Ed.), *Handbook of creativity*, Cambridge, Cambridge University Press, pp. 35-61.

Postmes, Lieselotte, Sno, Herman N., Goedhart, Saskia, van der Stel, Jaap, Heering, Henriette D., de Haan, Lieuwe (2014), «Schizophrenia as a self-disorder due to perceptual incoherence», in *Schizophrenia Research*, vol. 152, n. 1, pp. 41–50.

Prinzhorn, Hans (2004), *L'arte dei folli. L'attività plastica dei malati mentali*, Milano, Mimesis.

Qela, Brendon, Damiani, Stefano, De Santis, Samanta, Groppi, Federica, Pichiecchio, Anna, Asteggiano, Carlo, Brondino, Natascia, Monteleone, Alessio Maria, Grassi, Luigi, Politi, Pierluigi, Fusar-Poli, Paolo, Fusar-Poli, Laura (2025), «Predictive coding in neuropsychiatric disorders: A systematic transdiagnostic review», in *Neuroscience & Biobehavioral Reviews*, vol. 169, n. 106020.

Rasmussen, Andreas Rosén, Stephensen, Helene, Parnas, Josef (2018), «EAFI: examination of anomalous fantasy and imagination», in *Psychopathology*, 51(3), pp. 216-226.

Roth, Ilona (2020), «Autism, creativity and aesthetics», in *Qualitative Research in Psychology*,17(4), pp. 498-508.

Runco, Mark (2007), *Creativity. Theories and themes: Research, development and practice*, Amsterdam, Elsevier.

Runco, Mark, Jaeger, Garrett (2012), «The standard definition of creativity», in *Creativity Research Journal*, 24, pp. 92-96. doi: 10.1080/10400419.2012.650092

Sass, Louis (2013), *Follia e modernità. La pazzia alla luce dell'arte, della letteratura e del pensiero moderni*, Milano, Raffaello Cortina Editore.

Sass, Louiss, Pienkos, Elizabeth, Skodlar, Borut, Stanghellini, Giovanni, Fuchs, Thomas, Parnas, Josef, & Jones, Nev (2017), «EAWE: examination of anomalous world experience», in *Psychopathology*, 50(1), pp. 10-54.

Selby, Edwin, Shaw, Emily, Houtz, John (2005), «The Creative Personality», in *Gifted Child Quarterly*, 49(4), pp. 300-314.

Sternberg, Robert, O'Hara, Linda (2000), *Intelligence and creativity*, in Robert Sternberg (Ed.), *Handbook of intelligence*, New York, Cambridge University Press, pp. 611–630.

Torrance, Ellis (1977), *Creativity in the classroom: What research says to the teacher*, Washington, DC, National Education Association.

Torrance, Ellis (2008), *The Torrance Tests of Creative Thinking-norms-technical manual-figural (streamlined) forms A and B*, Bensenville, I, Scholastic Testing Service.

Tréhin, Gilles (2006), *Urville*, London, Jessica Kingsley.

Tschacher, Wolfgang, Giersch, Anne, Friston, Karl (2017), «Embodiment and Schizophrenia: A Review of Implications and Applications», in *Schizophrenia Bulletin*, vol. 43, n. 4, pp. 745–753.

Volmat, Robert (1956), *L'art psychopathologique*, Paris, PUF.

Wallach, Michael, Kogan, Nathan (1965), *Modes of thinking in young children: A study of the creativity intelligence distinction*, New York, Holt, Rinehart & Winston.

Wechsler, Solange (2008), *Criatividade: descobrindo e encorajando*, Campinas, Brasil, LAMP/IDB.

Williams, Frank (1980), *Creativity assessment packet*, Buffalo, DOK.

Zeng, Liang, Proctor, Robert, Salvendy, Gavriel (2011), «Can traditional divergent thinking tests be trusted in measuring and predicting real-world creativity?», in *Creativity Research Journal*, 23, pp. 24-37.