

Introduction to the Special Section on *Working on dreams, from psychotherapy to neuroscience*

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Everything can happen, everything is possible and probable. Time and place do not exist; on a significant bases of reality, the imagination spins, weaving new patterns; a mixture of memories, experiences, free fancies, incongruities and improvisations.
August Strindberg, *A dream play*

Dreams have long been the focus of multidisciplinary research: psychoanalytic, neuroscientific, and clinical psychology. Recent neuropsychological studies (Fischmann *et al.*, 2013; Hopkins, 2016; Solms, 2000, 2015) have provided strong evidence for the classic psychoanalytic concept (Freud, 1900/1953; Jung, 1960a, 1960b) that dreams have both a biological and a psychological function (Hoss & Gongloff, 2019). At the beginning of the 20th century, Sigmund Freud floated the hypothesis of continuity between dreaming and waking life (Freud, 1900/1953). This connection was formalized in the *continuity hypothesis*, which holds that dream content reflects waking concerns, thoughts, interests and experiences (Domhoff, 1996; Domhoff & Schneider, 2008; Schredl & Hoffman, 2003). It appears that one of the main functions

of dreaming is to increase the dreamer's capacity to process emotion, by elaborating on stressful experiences and psychic conflicts. Psychoanalytic authors such as Winfred Bion (1992), Philip Bromberg (2006), and Ernst Hartmann (2011) as well as neuroscientists such as Rosalind Cartwright (1991, 2010) and Mark Solms (2000) have suggested that dreaming allows the integration into memory of emotions experienced during waking life, reducing the impact of strong disruptive feelings attached to traumatic events. In a similar vein, Malinowski and Horton (2014) provide evidence that dreams might facilitate 'mastery' over affect and memories, helping the dreamer to gain control over the events of waking life. The adaptive function of dreams also is endorsed also by Antti Revonsuo (2000), whose threat simulation theory posits that in dreams we simulate and rehearse potentially dangerous and threatening events, serving an ancient, evolutionarily selected, defence mechanism that increases our cognitive and affective capacities to deal with threats.

Thus, the investigation of dreams still arouses great interest in the scientific community. Several studies (*e.g.* Bulkeley & Kahan, 2008; Hartmann & Brezler, 2008; Punamäki, 1998; Tempesta *et al.*, 2013) have explored dreams' content after traumatic events (*e.g.* earthquakes, terrorist attacks, pandemics), exploring dreaming as a collective phenomenon. In this regard, the recent COVID-19 outbreak and its impact on psychological health stimulated a large body of research on the effects of the pandemic on dream life all over the world. Studies in China (Wang *et al.*, 2020), Canada (Gupta, 2020), USA (Barrett, 2020; Schredl & Bulkeley, 2020), Finland (Pesonen, 2020), and Italy (Gorgoni *et al.*, 2021; Iorio *et al.*, 2020; Scarpelli *et al.*, 2021) found similar results about the increased frequency of negative emotions in dreams, COVID-19 references, and vivid negative imagery in many different populations during the pandemic.

Finally, many authors have focused on the role of dreamwork and dream analysis in clinical work: there is an extensive literature of case reports, which demonstrate that dreams may help clients/patients gain insights and awareness about their functioning. Mark Blechner (1995, 2018) considers dreaming essentially a form of communication between patient and analyst and therefore a use-

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ful tool for exploring and regulating transference and countertransference. Thomas Ogden (2005) differentiated ‘undreamt dreams’, consisting of emotional experiences that the patients are unable to process on an unconscious level, from ‘interrupted dreams’, in which the emotional content is so extreme that it overwhelms the patient’s ability to stay in the dream. The exploration of these dreams allows the blocked emotions to play out in the therapeutic relationship.

Considering all these facets of dream studies, this Special Section comprises eleven highly multidisciplinary contributions, which cover various areas of dream research. The first three articles are mainly *theoretical*. Specifically, the paper by Scalabrini and colleagues (2021), bridging psychoanalysis, infant research and neuroscience, investigates the capacity to dream as a tool for integrating fragmented senses of the Self in traumatized and borderline patients. The authors describe the work on patients’ dreams as a form of ‘embodied witnessing’, where the analyst gives back to the patient a restructured sense of self-continuity and disruptive emotional content that results in symptomatic actions finally acquire a symbolic psychic form.

Shifting towards Gestalt theory, the work of Holzinger and colleagues (2021) reviews the role of dreams within the framework of Gestalt therapy and explains how certain methods can reveal messages that are concealed in dreams. They present a newly developed therapeutic technique, the *DreamSenseMemory*, which is based on neurological findings on how the senses at play influence memory processing. Moreover, the authors introduce *Lucid Dreaming* as a psychotherapeutic method and describe its interaction with *DreamSenseMemory*.

The work of Carcione and colleagues (2021) on dreams in cognitive-behavioural therapy (CBT) concludes the theoretical section. The authors provide a useful overview of the use of dreams within the CBT framework from a clinical perspective ranging from such as Beck’s classic attention to the manifest level to more contemporary perspectives. They highlight how the dreamwork, long considered useless by CBT, needs to be revitalized and used as a tool to get information about the patient, overcome impasses in therapy, restructure self and interpersonal schemas, and stimulate reflective functioning.

The work by Pap and colleagues (2021) opens the *research* section. They explore a series of dreams of a patient followed in individual psychodynamic psychotherapy. The authors used a dream coding system in which the guiding question is about changes in positioning and interactions of the dream elements, how they can be determined, and how they influence the patient’s ability to regulate affects.

Moving towards a different discipline, Abdul-Razzak and Alkhatatbeh (2021) present results from their study investigating the association between Vitamin D deficiency, calcium intake, anxiety, depression, and nightmares and bad dreams in a clinical sample of individuals

with chronic pain. The authors found that the lack of Vitamin D and lower calcium intake may have a role in psychological distress and in higher frequency of nightmares.

Considering dreams at a group level, Borghi and colleagues (2021a) write about their research on oneiric life in an Italian prison, adopting Lawrence’s social dreaming (SD) matrices. The study involved prison officers and educators working in the prison and aimed at collecting the emotional climate and the critical issues among the prison staff, and helping jail workers at gaining a deeper understanding of their emotional experience and work functioning.

Four studies in the Special Section, involve research on dreams during the COVID-19 pandemic. Specifically, Mariani and colleagues (2021), considering dreaming as a collective phenomenon, present their analysis of a set of dreams made during the pandemic through linguistic analysis, using the Discourse Attributes Analysis Program (DAAP) and applying the linguistic measures of Wilma Bucci’s ‘Referential Process’ (RP; Bucci, 2021). Discussing the dreams’ different functions in processing traumatic experiences, the authors cluster the dream transcripts according to the three levels of the RP: Arousal, Symbolizing and Reflection/Reorganizing.

Marogna and colleagues (2021) applied qualitative methodology to compare dreams made by a group of Italian young adults during the last week of the COVID-19 strict lockdown with dreams made by the same group in the subsequent week. The authors found a higher presence of COVID-19-specific ‘daytime residue’ in the first assessment, supporting the continuity hypothesis.

In a similar vein, Borghi and colleagues (2021b) explored dream content and emotional experiences during COVID-19 lockdown in a large Italian sample using a mixed qualitative-quantitative design. They cluster the dreams in their sample into eight categories (Places, Characters, Relationships, Actions, Danger, Death, Processes, and Emotions) and analyse the associations between these categories and psychological variables, including depression and resilience, and with exposure to COVID-19.

Sommantico and colleagues (2021) compared dream content between samples of Italian adolescents and adults during the first wave of the COVID-19 pandemic. In the adult sample, the authors found longer dreams, characterized by higher emotional intensity, greater frequency of negative emotions, and a higher presence of sensory impressions; however, they found that many adolescents also reported strong effects of the COVID-19 lockdown measures on their dreams. Other interesting results were the high frequency of dreams related to the home confinement in both groups and the higher presence of dreams about relationships in adolescents.

We conclude the Special Section with a theoretical piece by Caviglia (2021), which proposes a much-needed synthesis between the psychoanalytic approach to dreams and the neurophysiological findings on dreaming. Drawing from his clinical experience and with extensive re-

search in literature, Caviglia investigates the function of dreams, not only as the 'via regia to the unconscious', but also as a fundamental capacity to be developed in therapy, necessary for the patients' transformations, to promote mentalizing, problem solving, affect regulation and integration of the Self.

We thank all the authors and the reviewers who contributed to this Special Section, which we hope will provide a rich contribution to dream research, presenting different perspectives at both the theoretical and experimental levels. Our hope is to stimulate further research, particularly respect to the use of dreams in psychotherapy and in analysing dreams with respect to traumatic events, focusing on their function to facilitate elaboration and affective integration.

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