

Relationship Between Neurocognitive and Sociocultural Perspectives of Dreams

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Abstract: *Dreams constitute one of the most universal and, at the same time, most complex phenomena of human psychological experience. Over more than a century, the study of dreams has evolved from interpretations centered on universal symbols and unconscious contents toward cognitive, neuroscientific, and sociocultural approaches. The present article integrates recent findings on the nature of dreams with research on the developmental understanding of mind and dream processes in childhood. It is argued that dreams are dynamic constructions resulting from the interaction of neurobiological mechanisms, personal experiences, cognitive development, and cultural resources. Based on recent empirical evidence, this paper tries to demonstrate that individual traits, everyday experiences, and sociocultural events significantly influence dream content. Furthermore, it examines how children progressively construct an understanding of dreams as private mental phenomena and how dream contents reflect the appropriation of elements derived from family, school, mass media, and other cultural practices. It is concluded that dreams can be understood as personal narratives that reorganize experiences through socially acquired symbolic resources.*

Keywords: *Dreams, cognitive development, dream content, cultural psychology.*

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I. Introduction

Dreams have occupied a privileged place in the history of human thought. From the religious interpretations of ancient civilizations to contemporary models in cognitive neuroscience, dream experience has been regarded as a unique window into the functioning of the human mind.

Throughout much of the twentieth century, the influence of Sigmund Freud led scholars to interpret dreams as disguised expressions of unconscious wishes. More recent research, however, has demonstrated that dream experience is considerably more complex and that its content depends on multiple factors related to memory, emotion, cognition, and sociocultural context.

In developing theories of dreams and dreams interpretation, scholars have always made assumptions about how people live, think, feel, and are motivated to experience a particular dream even if those assumptions have remained in some cases implicit and unexamined. These underlying assumptions about mind and human development—whether implicit or explicit—outline our approach to dreams and how we imagine the ways in which, and the extent to which, culture influences dream content. If we assume that the mind is an autonomous entity that is developed according to internal or subjective determinants, our conceptualizations of the role of culture will be radically diminished. By contrast, if we assume that culture plays an active role in the genesis and developing of human mind, we must conclude that many—if not all—cognitive functions are intertwined with specific cultural resources. In this view, the question of how the human mind works cannot be fully appreciated without appealing to the cultural tools at its disposal. As Bruner stated it: “It is culture that provides the tools for organizing and understanding our worlds in communicable ways.... Without those tools, whether symbolic or material, man is not a “naked ape” but an empty abstraction.” (1996, p. 3).

Indeed, current evidence suggests that dreams maintain a relationship of continuity with waking life. People, places, concerns, and emotions encountered during wakefulness frequently reappear during sleep, transformed through processes of symbolic and narrative reorganization (Domhoff, 2010; Scarpelli et al. 2022).

At the same time, developmental research has shown that children’s understanding of dreams constitutes an important aspect of the construction of a theory of mind. Young children do not initially conceive dreams as internal and private mental events; rather, they often regard them as external occurrences that can exist independently of the dreamer. This understanding gradually evolves as cognitive development progresses and social experience expands (Medina Liberty, 2017).

The purpose of this article is to review neurocognitive, developmental, and sociocultural perspectives in order to provide a comprehensive understanding of dream experience as a complex psychological phenomenon.

Neurocognitive Perspectives on Dreaming

The development of electroencephalography (EEG) in the 1950s revolutionised the study of dreams by enabling the observation of brain activity during sleep. Rather than viewing dreams as random by-products of neural activity or as mere symbolic disguises of unconscious wishes, current evidence suggests that dreaming represents a complex form of conscious experience generated by the sleeping brain. Dreams emerge when the brain is partially disconnected from external sensory input while remaining capable of constructing vivid perceptual, emotional, and narrative experiences.

Recent research has demonstrated that dream content exhibits both continuity and discontinuity with waking life. Elements from everyday experience, including people, places, concerns, and emotional states, frequently reappear in dreams. However, these elements are not reproduced literally; rather, they are reorganized into novel and often bizarre narrative structures.

A large-scale longitudinal study conducted by Elce and colleagues analyzed more than 3,000 reports of dreams and waking experiences collected over a four-year period. The findings revealed that dreams differ systematically from waking thought. Compared to waking reports, dreams contain more visual and spatial information, a greater number of characters, more frequent changes in setting, and higher levels of bizarreness. Conversely, waking experiences tend to be more self-referential and thought-oriented. During REM (rapid eye movement) sleep, there is increased activity and blood flow in the limbic and paralimbic regions, including the amygdala-limbic complexes, hippocampal formation, and anterior cingulate cortex (Schwartz & Maquet, 2002). Additionally, REM sleep is characterised by relative inactivity in the frontoparietal associative networks, which may explain the diminished insight and control typical of dreams. However, it has also been found that dreams can occur during in NREM sleep (Nielsen, 2000).

Recent advancements in neuroimaging and high-density EEG have enabled the identification of specific brain activity patterns associated with various dream features. These studies have showed similar brain activity patterns associated with REM and non-REM dreams (Siclari et al., 2017), as well as localised dream content-specific activations resembling those observed in waking perception, for faces, the spatial setting of the dream, speech, thoughts, fear, and movement (Perogamvros et al., 2017; Sterpenich et al., 2020). Interestingly, functional neuroimaging studies have detected regional brain activity patterns typical of REM sleep, such as reduced activity of parts of the prefrontal cortex, potentially explaining the bizarre and illogical nature of dreams. Conversely, increased activity in the limbic system, particularly the amygdala, has been suggested to underlie the emotional intensity of dreams (Schwartz & Maquet, 2002).

These findings support the hypothesis that dreaming involves the spontaneous recombination of memories, perceptions, and emotions into immersive simulated environments. Such simulations may serve adaptive functions related to learning, memory consolidation, emotional processing, and the rehearsal of social interactions.

Importantly, dreams should not be understood as isolated cognitive events. Instead, they emerge from the interaction of neural processes with the dreamer's personal history, emotional concerns, and sociocultural experiences (Medina Liberty, 2017). This perspective provides a foundation for understanding why dream content varies significantly across individuals and across historical periods.

Individual Differences and Dream Content

Although dreaming is a universal human experience, dream content exhibits remarkable variability across individuals. This variability suggests that stable personal characteristics play a significant role in shaping the structure and themes of dreams. Dreams, however, do not simply reproduce waking experiences, they tend to integrate waking elements in metaphorical or associative ways that vary with each dreamer's history, beliefs, and concerns. Although common themes can emerge across individuals.

The study by Elce and collaborators demonstrated that several enduring psychological traits systematically influence dream content. Among the most important predictors were attitudes toward dreaming, propensity for mind-wandering, and subjective sleep quality. Individuals who attributed greater personal significance to dreams tended to report dreams that were more emotionally intense, perceptually rich, and narratively complex.

Similarly, individuals with a greater tendency toward spontaneous mind-wandering during wakefulness reported dreams characterized by higher levels of imagery, more elaborate narratives, and greater semantic complexity. These findings support theoretical proposals suggesting that dreaming and mind-wandering share common cognitive mechanisms. Both involve internally generated mental simulations that operate independently of immediate environmental demands.

Sleep quality also influences dream content. Variations in subjective sleep experience were associated with differences in dream emotionality and narrative organization. These findings indicate that dreaming cannot be understood solely as a function of external events; rather, it reflects enduring individual differences in cognition, personality, and emotional regulation.

The significance of these findings lies in their challenge to traditional approaches that seek universal meanings in dreams. Instead, dream content appears to be shaped by a unique constellation of personal experiences, cognitive styles, emotional tendencies, and sociocultural influences.

Children's Understanding of Dreams and Mind

The developmental study of dreams offers important insights into the emergence of self-awareness and the construction of a theory of mind. Understanding dreams requires children to recognize that mental experiences may occur independently of external reality and may be accessible only to the individual experiencing them.

In some previous studies, I examined children between four and nine years of age and documented significant developmental changes in their understanding of dreams and mental processes (2019, 2020a).

Young children generally view dreams as concrete and externally located events. Many believe that dreams originate in visible bodily organs such as the eyes or mouth and that other people can see them. Their dreams tend to be brief, action-oriented, and dominated by concrete activities such as running, jumping, or playing video games. Characters frequently derive from television programs, cartoons, and popular media.

As children grow older, their understanding of dreams becomes increasingly sophisticated. Between six and eight years of age, they begin to recognize dreams as private experiences and gradually locate them within the mind rather than in external reality. Their dreams also become longer, more coherent, and socially complex. The dreamer increasingly appears as an active participant rather than a passive observer.

By approximately eight or nine years of age, children understand dreams as internal mental events that occur within the mind and are inaccessible to others. At this stage, their conceptions of dreams begin to resemble those of adults.

These developmental changes suggest that dream understanding is closely linked to broader cognitive developments involving self-reflection, symbolic thought, and social cognition. Children's conceptions of dreams are a component of their developing understanding of the mind, and have traditionally been used as an index of this more general understanding. Dreams therefore provide a valuable window into the development of children's concepts of mind, imagination, and subjective experience.

Sociocultural Influences on Dream Formation

While neurocognitive processes provide the biological basis for dreaming, sociocultural psychology emphasizes that dream content is fundamentally shaped by participation in culturally organized activities.

According to the sociocultural perspective, human mental life develops through interaction with symbolic systems, social practices, and cultural institutions. Mind is not an isolated entity operating independently of society; rather, it emerges through participation in culturally mediated forms of activity.

A cultural approach questions the assumption of a single, systemic theory of the dream in any society. Mageo, for instance, developed a cultural theory of those dreams with rich imagery and developed plots that are likely to be dreamt in rapid-eye-movement sleep. Such dreams, she argues, are an instance of what the anthropologist Clifford Geertz calls "deep play." For Geertz, deep play is play with "an image ... a model, a metaphor" that makes visible fundamental cultural structures. Image metaphors for cultural models often appear in dreams. Deep play in dreams, Mageo argues, subjects cultural models to destabilizing play in order to adapt them to the dreamer's experience and to confront threats to the dreamer's identity that models for being a person can pose. Dreamers destabilize models by ambiguating images that represent them in seven ways outlined in her article. Ambiguity stops the mind from settling on a single meaning. This inability triggers hyper-associations that challenge and subvert a model's given meanings (Mageo, 2022).

From this viewpoint, dreams can be understood as subjective reorganizations of culturally acquired meanings. Dreams incorporate symbols, narratives, values, and practices encountered in everyday life and transform them into new configurations. As I sustain before, dreams represent subjective instantiations of culture's "webs of meaning" (Medina Liberty, 2020b).

Empirical research supports this interpretation. A study of children's dreams identified several recurring thematic sources. Family interactions accounted for 26% of dream themes, play situations for 22%, movies for 20%, candies and ice cream for 12%, toys for 12%, and animals for 8%.

These findings indicate that children's dreams are constructed from elements that occupy central positions in their everyday lives. Family members, school experiences, friendships, games, and media characters become symbolic resources that are creatively reorganized during dreaming (Foulkes, 1999).

The available evidence points to consider that all children grow up to be cultural beings. Thus, the process of human development is unavoidably coupled to the process of enculturation, of orienting oneself within systems of meaning. In other words, children are not only active beings but culturally active, they are participants in negotiations with others in the communal events that are the basis of shared meaning. In this view, mind is both constituted by and realized in the use of those symbols that are available in each cultural space (Medina Liberty, 2020b; Bruner, 1990, 1996). For the anthropologist Clifford Geertz, culture itself is a semiotic system and mental

functions are thoroughly dependent upon cultural resources that are not adjuncts to, but constituents of mental activity (Geertz, 2000).

In sum, rather than merely reproducing reality, dreams transform culturally acquired experiences into novel narratives. Dream content therefore reflects both the individual's personal concerns and the broader symbolic environment in which those concerns emerge.

Dreams as Narrative Constructions

An important contribution of sociocultural psychology is the proposal that dreams possess an inherently narrative structure. Drawing upon the work of Bruner, Ricoeur, and Burke, dreams can be understood as stories that organize events, characters, motives, and emotions into meaningful wholes.

Narratives do more than simply list events; they establish relationships among actions, intentions, and consequences. Dreams function similarly. Although dream events may appear fragmented or illogical when considered individually, they often reveal coherent themes when interpreted as parts of a broader narrative structure.

Cariola, for example, examines 21 Japanese and Mandarin dream narratives of male and female speakers in relation to structural and functional differences. She found that independent from cultural and linguistic context, dream narratives follow a similar structural format. However, significant cultural-dependent discursive functional and linguistic differences were established. Japanese dream recall primarily focuses on an objective theme-oriented perspective that emphasizes an external locus, such as social involvement. In contrast, Mandarin dream narratives reflect an internal locus, accentuating an emotion-driven recall and the tendency to describe objects in terms of what they are not rather than what they are, referred to as an indirect strategy (Cariola, 2008).

For his part, Misson argues that features and devices typically associated with literary fiction are frequently used as a speculative explanatory framework to understand dreams and the processes underlying their formation, encoding, and retrieval. To illuminate this tendency, she focused on two central categories in the philosophy of dreaming: authorship and composition. By examining relevant cases in which these categories are employed to support divergent ontological and epistemological claims, she argued that similar accounts rest on a shared—yet frequently unacknowledged—assumption: that dreams exhibit a narrative structure and that dreaming is, at its core, a process of narrative construction (Misson & Windt, 2025).

In developing theories of dreams and dreams interpretation, scholars have always made assumptions about how people live, think, feel, and are motivated to experience a particular dream even if those assumptions have remained in some cases implicit and unexamined. These underlying assumptions about mind and human development—whether implicit or explicit—outline our approach to dreams and how we imagine the ways in which, and the extent to which, culture influences dream content. If we assume that the mind is an autonomous entity that is developed according to internal or subjective determinants, our conceptualizations of the role of culture will be radically diminished. By contrast, if we assume that culture plays an active role in the genesis and developing of human mind, we must conclude that many—if not all—cognitive functions are intertwined with specific cultural resources. In this view, the question of how the human mind works cannot be fully appreciated without appealing to the cultural tools at its disposal. As Bruner stated it: “It is culture that provides the tools for organizing and understanding our worlds in communicable ways.... Without those tools, whether symbolic or material, man is not a “naked ape” but an empty abstraction.” (1996, p. 3).

In a previous study, I tried to illustrate this narrative process. Family members, school peers, teachers, fictional characters, and daily activities are combined into coherent stories that express the child's concerns, desires, conflicts, and emotional experiences (Medina Liberty, 2010).

Through narrative organization, dreams allow individuals to explore alternative possibilities, reinterpret past experiences, and negotiate emotional tensions. Dreaming therefore represents not merely a cognitive activity but also a process of meaning-making.

II. Discussion

The evidence reviewed in this article supports a multidimensional understanding of dreams that integrates neurobiological, cognitive, developmental, and sociocultural perspectives.

Neuroscientific research demonstrates that dreams emerge from complex brain processes involved in memory, perception, and emotion. At the same time, individual differences in cognitive style, emotional tendencies, and attitudes toward dreaming contribute significantly to dream content.

Developmental studies reveal that children gradually construct an understanding of dreams as private mental events. This developmental progression parallels broader advances in theory of mind and self-awareness.

Finally, sociocultural research demonstrates that dreams are deeply embedded in cultural systems of meaning. Family relationships, educational experiences, media narratives, and social practices provide the symbolic materials from which dreams are constructed.

Together, these perspectives suggest that dreams are neither purely biological events nor purely cultural products. Instead, they emerge through the continuous interaction of neural mechanisms, personal experiences, developmental processes, and sociocultural contexts.

Dreams represent one of the most remarkable manifestations of human consciousness. Far from being random mental events, they constitute organized experiences that reflect the interaction of biological, psychological, developmental, and cultural factors.

Recent evidence demonstrates that dream content is influenced by stable individual traits, everyday concerns, and major sociocultural events. Children's dreams reveal the progressive construction of mental concepts, while adult dreams reflect the ongoing integration of personal experiences and cultural meanings.

From an integrative perspective, dreams can be understood as narrative constructions through which individuals reorganize memories, emotions, and symbolic resources acquired in social life. Their study therefore provides valuable insights into the nature of mind, culture, and human development.

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