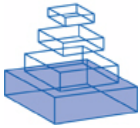


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SOCIETY

Sleep in different cultures

Carol M. Worthman

Research in diverse cultures offers unexpected insights into how humans sleep that challenge scientific, clinical, and popular western views and suggest how interactions of culture and biology shape sleep physiology (Jenni and O'Connor, 2005). As a behavior, sleep has emerged as both more flexible and more social than was thought; indeed, there may be no one “right way” to sleep. Human sleep evolved in risky settings that fostered complex sleep architecture and regulation of vigilance in sleep to suit local circumstances (Lima et al., 2005). A study sampling ten groups including foragers, herders, and cultivators from South America, Africa, central and southeast Asia, and the Pacific yielded an arrestingly diverse view of when, where, how, and with whom people sleep (Worthman and Melby, 2002).

In all these groups, sleeping together brings safe sleep by providing warmth, comfort, and security that someone is awake or wake-able at any time in case of danger of distress. Such shared sleeping spaces are enlivened by other sleepers, domestic animals, hearth fires for warmth and protection, and nighttime activities of others nearby. Mattresses, profuse bedding, and pillows are rare or non-existent because they harbor pests and parasites. Night is an important social time for gossip and stories, ritual and other performances, handiwork, or politics and parties, and sleep is woven into daily activities as needed. Fixed bedtimes are virtually absent, opportunistic napping and a not-awake-not-asleep state of somnolence are common, and the boundary between sleep and wake is fluid. Nighttime rituals, such as initiations in Papua New Guinea or reburials, shadow plays, and temple ceremonies in Bali apparently exploit sleep deprivation effects. Indeed, the Balinese capacity for fear sleep (*tadoet poeles*, abrupt sleep response to trauma) illustrates how far the enculturation of state regulation may be pushed.

In sum, among non-western cultures, sleep settings are social and solitary sleep rare; bedtimes fluid and napping common; bedding minimal; hearth fires present; and conditions dim-to-dark and relatively noisy with people, animals, and little or no acoustic and physical barrier to ambient conditions. Such sleep settings offer rich, dynamic sensory properties including comfort and security via social setting; fuzzy spatial and temporal boundaries; and effortful climate control. Indeed, habitual co-sleepers experience better sleep quality when they co-sleep (Worthman and Brown, 2007).

Contemporary western sleep conditions and practices appear unusual by comparison. Western postindustrial societies cultivate more sensorily impoverished, unperturbed sleeping conditions featuring solitary or low-contact sleeping arrangements; scheduled bed- and wake-times for a single sleep period; padded bed and profuse bedding; absence of hearth fires; darkness; silence; and robust acoustic, as well as physical, barriers around sleep spaces. Such static sleep conditions typically provide security and comfort through physical setting; rigid boundaries in time and space; and climate control. These settings generally offer relative freedom from parasites and vectors of disease, fear of predators and ambush, discomfort from harsh temperatures or rough bedding, or disruptions from crowding, noise or activities of others. Features that might make sleep regulation more difficult include habitual solitary sleep or limited co-sleep from infancy onwards (McKenna and McDade, 2005); a “lie down and die” model of sleep in restricted intervals with few, brief sleep-wake transitions; and sensory deprivation of physical and social cues in sleep settings. An

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untested question is whether these unusual habits and settings place high and sustained burdens on sleep-wake regulation systems that contribute to contemporary sleep problems and disorders.

Across cultures, humans exhibit a range of arousal states that blur binary sleep-wake distinctions, including capacities for sustained somnolence or resting wakefulness, for adjusting level of vigilance in sleep, and for non-consolidated sleep patterns including napping and night waking. When and as necessary, humans can and will restrict sleep for extended periods to pursue rewarding activities or meet perceived survival demands: people do not just lose sleep, they stay awake because they want to or must (Worthman, 2008).

Culture shapes sleep habits and thereby shapes sleep architecture: for example, the proportion of REM sleep increases with sleep duration (Siegel, 2005). But we do not know how culture-based lifetime differences in sleep patterns and settings influence sleep architecture, amounts and quality of sleep, sleep problems, or even memory, the capacity for state regulation, and mental health. These compelling questions await future study.

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Biography

Carol M. Worthman is the Samuel Candler Dobbs Professor of Anthropology at Emory University and a pioneer in the comparative cross-cultural study of sleep. As Head of the Laboratory for Comparative Human Biology, she leads in development of field-friendly biomarkers and cross-culturally robust psychobehavioral and ethnographic methods to examine interactions of culture and biology that contribute to differences in mental and physical health. This work spans 12 countries and includes large ongoing longitudinal studies in the US.
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