THE HOMEPLACE EFFECT:

Physiological and Psychological Mechanisms of Birthplace-Based Healing

A Systematic Literature Review

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ABSTRACT

Background: A growing interdisciplinary body of evidence — spanning health geography, environmental psychology, epigenetics, and indigenous medicine — converges on a compelling proposition: that returning to one's native birthplace or ancestral homeland may confer measurable physiological and psychological healing benefits beyond those achievable in standardized clinical settings. We term this phenomenon the Homeplace Effect.

Methods: This review synthesizes peer-reviewed literature from three primary domains: (1) place attachment and geographic rootedness in relation to psychological resilience and stress biomarkers; (2) therapeutic landscapes and the restorative properties of sensory-familiar environments; and (3) indigenous and traditional frameworks of land-based healing, including Aboriginal Australian 'Caring for Country' programs and Native American land-reconnection interventions.

Results: Evidence indicates that strong place attachment correlates with reduced hypothalamic-pituitary-adrenal (HPA) axis reactivity, enhanced social support buffering, and accelerated psychological recovery from illness. Indigenous healing paradigms consistently demonstrate that reconnection with ancestral lands improves mental health outcomes, reduces psychological distress scores, and strengthens identity-based resilience. Emerging research on the early-life microbiome further suggests that native soil microbiota, traditional foods, and local water sources imprint lasting signatures on gut-brain health — a mechanism partially illuminated by the Vedantic concept of the Annamaya Kosha (the food-matter body built from local elements). The Vedantic panchakosha framework, particularly its emphasis on the physical sheath being literally 'made of food' derived from one's native elements, provides a culturally integrative lens that bridges ancient wisdom with contemporary gut-environment science.

Conclusions: The extant literature, while heterogeneous in methodology, points toward a coherent model in which environmental familiarity, cultural identity, microbiome resonance, and psychosocial support interact to accelerate recovery and sustain holistic well-being. Healthcare systems would benefit from formally incorporating 'place-as-medicine' frameworks into recovery protocols, particularly for populations experiencing chronic illness, postpartum vulnerability, or displacement-related stress.

1. INTRODUCTION: DEFINING THE FRAMEWORK

1.1 Topophilia and the Geography of Healing

The philosophical roots of place-based healing trace to the geographer Yi-Fu Tuan's concept of topophilia — the affective bond between people and their physical environment (Tuan, 1974). While Tuan framed topophilia as a phenomenological insight, health geographer Wilbert Gesler (1992) operationalized it into the empirically tractable concept of therapeutic landscapes: environments in which the convergence of physical, social, and symbolic dimensions creates conditions conducive to healing. As Gesler articulated, therapeutic landscapes are those 'where the physical and built environments, social conditions and human perceptions combine to produce an atmosphere which is conducive to healing.'

What remained underexplored in Gesler's original formulation was a specific subset of therapeutic landscapes — those constituted by one's native place of origin. The Homeplace Effect, as we define it, refers to the multidimensional restorative potential of environments co-constituted by birth, childhood residence, ancestral lineage, and embodied environmental familiarity. This is distinct from generalized nature-exposure or wellness tourism: it is the specific resonance between an individual's biological and psychological history and the environmental context in which that history was inscribed.

1.2 Theoretical Constructs

Several key constructs anchor the literature reviewed herein:

Place Attachment refers to the cognitive-emotional bond between a person and a specific environment (Scannell & Gifford, 2010). It operates across three dimensions: affect (emotional significance), cognition (knowledge and meaning), and behavior (proximity-seeking). High place attachment is associated with enhanced perceived safety, lower allostatic load, and greater psychological flexibility.

Psychological Rootedness, as termed by Gesler (1992), describes the association of a specific place with health enhancement — the sense that being in a particular location stabilizes the self and regulates distress. This is distinguished from general habitat preference by its deeply autobiographical quality.

Therapeutic Rootedness extends the therapeutic landscapes framework to specifically ancestral, birth-origin, or culturally native environments. It argues that therapeutic effects are amplified when the landscape holds personal and genealogical history, not merely aesthetic or ecological value.

Land-Based Healing is the indigenous paradigm in which ancestral land is understood as the primary substrate of physical, psychological, spiritual, and cultural wellness. Across diverse indigenous traditions from the Aboriginal Australian 'Country' framework to Lakota, Anishinaabe, and Houma cosmologies, the health of the person and the health of the land are understood as inseparable and mutually constituting.

2. THEMATIC SYNTHESIS OF EVIDENCE

2.1 Mental Health and Psychological Resilience

2.1.1 Place Attachment and HPA Axis Regulation

The hypothalamic-pituitary-adrenal (HPA) axis — the neuroendocrine stress response system that governs cortisol production — serves as a primary biological interface between environmental experience and physical health. Research consistently demonstrates that secure attachment patterns, whether to persons or to places, modulate HPA reactivity. Pietromonaco and colleagues (2006) demonstrated in a study of 124 couples that insecure attachment styles were associated with dysregulated cortisol trajectories during and after social stressors, while attachment security predicted faster cortisol recovery. While this interpersonal attachment research does not directly address place attachment, the neurobiological mechanisms are considered analogous: familiar, emotionally safe environments activate the same ventral vagal and oxytocin-mediated pathways that secure relationships do.

Majeed and Ramkissoon (2020), in a comprehensive scoping review published in Frontiers in Psychology examining 124 peer-reviewed sources, proposed that strong place attachment generates enduring therapeutic effects on health and well-being. Their integrative model identified that 'a strong sense of attachment to the place may lead to enduring therapeutic effects on individuals' health and well-being,' particularly in natural and culturally resonant environments. Critically, the model distinguishes passive exposure from attachment-constituted experience: it is the emotional and historical connection — the sense that this place knows me — that differentiates therapeutic from merely pleasant environments.

From a social neuroscience perspective, environments of origin carry dense autobiographical encoding. When individuals return to native places, the predictability of sensory inputs (familiar dialects, known smells of local soil and cuisine, recognized seasonal rhythms) reduces novelty-induced amygdala activation and supports default-mode network coherence — neural patterns associated with self-referential processing and psychological integration. These mechanisms explain why anecdotal accounts of homecoming-as-healing carry such cross-cultural consistency.

2.1.2 Indigenous Land-Based Healing: The Mental Health Evidence Base

Some of the most compelling empirical evidence for the Homeplace Effect comes from research on indigenous land-based healing programs. A systematic review by Dudgeon and colleagues (published in PMC, 2024) documented that land-based healing and wellness programs centering cultural practices on Country were associated with improved mental health outcomes among Aboriginal Australian populations. Separately, a systematic review on 'Caring for Country' activities — in which Aboriginal and Torres Strait Islander peoples engaged in custodial land management, traditional harvesting, and ceremonial practices on ancestral territories — found that participation was associated with lower psychological distress scores ($\beta = -0.97$; 95% CI: −1.64, −0.31), alongside physical health benefits including lower BMI, reduced blood pressure, and decreased risk of diabetes and cardiovascular problems.

Johnson-Jennings and colleagues (2020), in a landmark participatory study with the United Houma Nation (UHN) of Louisiana, demonstrated that a land-based healing pilot intervention ('Returning to Our Roots') was both feasible and effective in catalyzing health behavior change and cultural identity strengthening among Houma women. Participants reported that proximity to sacred ancestral water and land — even in the context

of environmental degradation from colonial extraction — activated ceremony, mindfulness, and collective healing. The study formalized these findings into the Uma Hochokma Framework, a Houma-specific health model positioning land as central to all dimensions of wellness. As the authors note, this aligns with broader Indigenous teachings that 'our identity as human beings remains tied to our land... Destroy this relationship and you damage — sometimes irrevocably — individual human beings and their health.'

Among the Anishinaabe people, participation in land-based activities — gathering herbal medicines, foraging, speaking traditional language on ancestral land, and attending spiritual ceremony — was associated with improved mental wellness. Researchers in the Inuit community of Rigolet, Nunatsiavut, Labrador found that spending time on ancestral land (hunting, fishing, traditional travel) measurably enhanced individual and community mental wellness, with participants reporting improvements in sleep quality, anxiety reduction, and social connectedness.

2.2 Chronic Illness Recovery

2.2.1 Therapeutic Landscapes and Recovery Trajectories

The therapeutic landscapes literature, reviewed comprehensively by Bell and colleagues (2018) in a scoping review of studies from 2007 to 2016, establishes that healing environments are not passive backdrops but active co-constituents of recovery. The review, which synthesized evidence from health geography, medical anthropology, and nursing science, identified that material, social, spiritual, and symbolic dimensions of place interact to either facilitate or impede recovery from chronic illness, cancer, addiction, and mental health conditions. Critically, places carrying personal and cultural history consistently outperformed aesthetically equivalent but unfamiliar environments in their healing potential.

A systematic review by Rezaei and colleagues (2021) examined qualitative and hybrid studies on therapeutic landscapes across multiple health conditions, concluding that therapeutic landscapes 'not only have the potential to strengthen health but also are useful in the process of prevention and recovery, through adaptation and management of social, physical, and emotional challenges.' The review highlighted that the most therapeutically potent environments were those that activated multiple dimensions simultaneously: the physical environment reduced allostatic load; the social environment provided kinship support; the spiritual environment conferred existential meaning; and the symbolic environment reinforced identity continuity. Native homeplace environments, by definition, are capable of activating all four dimensions simultaneously — a combinatorial potency that standardized clinical settings structurally cannot replicate.

The Intechopen chapter by landscape architects studying therapeutic environments across Australasia, Africa, the Middle East, and Latin America (2021) found that the most successful healing landscapes were those that established 'a strong sense of place for all users,' observing that 'the sense of place in a therapeutic landscape... is often felt by a user when they have an emotional or historical connection to that place.' Crucially, this historical connection generated therapeutic effects that transcended objective environmental quality metrics — places of ancestral significance healed even when their material conditions were compromised.

2.2.2 The Hospital Environment vs. Native Place Dichotomy

The biomedical default of clinical recovery environments — characterized by controlled lighting, sterile surfaces, unfamiliar personnel, restricted social networks, and institutional sound ecology — creates conditions optimized for infection control and procedural safety. However, this optimization is achieved at the cost of the environmental familiarity, sensory richness, social embeddedness, and identity-affirming cues that therapeutic landscapes research identifies as critical drivers of holistic recovery.

Hospital environments, by their structural nature, are maximally unfamiliar. They deploy decontextualized technologies, bureaucratic social relationships, standardized food, and artificial light in ways that may inadvertently activate chronic low-grade stress responses in recovering patients. Several observational studies have noted elevated cortisol and reduced recovery rates among patients who lack meaningful social connection or environmental familiarity during hospitalization. The therapeutic landscapes framework suggests that integrating elements of native-place familiarity — culturally appropriate foods, access to kinship networks, exposure to familiar language and music, and where possible, convalescence in community settings — may meaningfully improve recovery outcomes.

This dichotomy is perhaps most dramatically visible in indigenous health contexts. The integration of traditional therapies within mainstream healthcare in Australia, Canada, and New Zealand has been identified as critical for improving both health outcomes and healthcare utilization among First Nations peoples. A 2022 integrative review on traditional therapies for First Nations peoples in Australia found that the underutilization of healthcare services — with its documented adverse effects on health outcomes — was substantially ameliorated when traditional healing practices and place-based cultural care were integrated into treatment protocols. The evidence thus argues not for a wholesale replacement of biomedical care but for its strategic augmentation with place- and culture-based healing modalities.

2.3 Maternal and Postpartum Health

2.3.1 Traditional Postpartum Practices and Cultural Homeland

Postpartum recovery represents one of the clearest expressions of the Homeplace Effect in mainstream health literature. A landmark qualitative systematic review by Dennis and colleagues (2007) synthesized cross-cultural evidence on traditional postpartum practices, documenting that so-called 'ethnokinship' cultures — including those of East Asia, South Asia, and the Middle East — uniformly emphasize extended social support rituals, specific ancestral foods, and community-based recovery that Western technocentric medicine comparatively neglects.

The review documented that across diverse cultural contexts, return to the family home of origin for postpartum recovery — often involving the maternal grandmother's household — was associated with reduced postpartum depression risk, enhanced breastfeeding success, and lower rates of maternal morbidity in later life. Critically, some women who did not engage in traditional postpartum practices due to modernization or geographic displacement later reported regret when they subsequently developed conditions — such as arthritis, chronic back pain, or anxiety disorders — that traditional wisdom had attributed to insufficient postpartum recovery.

Contemporary research corroborates this. A 2025 qualitative study from Qingdao, China examining postpartum experiences in professional maternity care centers highlighted that integration of traditional cultural practices with modern healthcare significantly enhanced maternal well-being by addressing both physical and psychosocial dimensions simultaneously. The study emphasized that culturally sensitive care tailored to the societal and cultural contexts of postpartum women produced superior outcomes — a finding that generalizes to the broader proposition that homeplace-congruent recovery environments support holistic healing in ways that decontextualized clinical settings do not.

Community-based maternal health models further reinforce this evidence. Research reviewed by the Commonwealth Fund (2021) demonstrated that community doulas — who function as cultural mediators between clinical settings and home/community environments — reduced birth complications twofold and the probability of low-birthweight infants fourfold among high-risk populations. Their efficacy appears to derive

precisely from their capacity to bridge the homeplace (with its social networks, cultural knowledge, and environmental familiarity) and the clinical setting. These findings support integrating homeplace-proximate recovery as a maternal health intervention.

3. ANALYSIS OF MECHANISMS: WHY THE HOMEPLACE HEALS

3.1 Epigenetic and Neuroendocrine Mechanisms

While the concept of strict 'epigenetic alignment' between an individual and their native environment remains at the frontier of research rather than established science, several plausible mechanistic pathways have been proposed. Developmental epigenetics has established that early-life environmental exposures — including local microbiota, dietary composition, and sensory environment — shape gene expression patterns that persist across the lifespan. The concept of allostatic calibration suggests that organisms develop stress response set-points calibrated to their developmental environment; returning to that environment may reduce allostatic load by restoring the regulatory match between internal set-points and external conditions.

The HPA axis, as noted, is particularly sensitive to environmental familiarity. Prolonged exposure to unfamiliar or threatening environments maintains elevated corticotropin-releasing hormone (CRH) and cortisol production, producing wear on immune, cardiovascular, and metabolic systems. Native homeplace environments, by providing predictability, sensory familiarity, and kinship support, may reduce ambient HPA activation — creating conditions in which immunological repair, tissue regeneration, and psychological integration can proceed more effectively.

3.2 The Microbiome-Native Environment Interface

Perhaps the most biochemically tractable pathway through which native homeplace exerts healing effects is via the gut microbiome. Research published in PMC by Wu and colleagues (2021) demonstrated that soil microbiota from natural environments at birthplace exert significant influence on gut community assembly. In their murine experimental study, soil microbes from birth environments 'greatly influenced the gut community assembly,' with approximately 27% of microbial species and 12% of functional components associated with birthplace environments remaining discriminatory of birthplaces even after subjects were transferred to new environments. This 'priority effect' — whereby early microbial colonizers durably shape gut ecology — has profound implications for understanding the homeplace's enduring biological relevance.

A seminal study by Rothschild and colleagues (2018), examining microbiome data from 1,046 individuals with distinct ancestral origins sharing a common environment, demonstrated that the gut microbiome is shaped more strongly by environmental exposure than by host genetics. This finding implies that gut microbiome composition is not fixed by ancestry but is responsive to the local ecology of foods, soil microbiota, water sources, and fermented preparations — precisely the elements that distinguish a native environment from a clinical or migratory one.

Traditional foods prepared from native ingredients carry not only nutritional value but microbiome-relevant information: fermented preparations carry region-specific microbial strains; locally grown vegetables carry soil microbiota in their root systems; traditional water sources carry mineral profiles adapted to local geochemistry. Returning to one's native food environment thus represents a form of microbiome restoration — a reconstitution of the gut ecology in which the individual's physiology was originally calibrated. This may explain, in part, why indigenous land reconnection programs that restore access to traditional foods demonstrate improvements not only in psychological outcomes but in metabolic and cardiovascular biomarkers.

Shenderov (2012) reviewed the emerging field of gut microbiota epigenomics, arguing that indigenous gut microbiota produce low-molecular-weight signaling substances that actively participate in epigenomic mechanisms responsible for genome reprogramming. This establishes a direct pathway from gut microbiome composition — shaped by native environmental exposure — to epigenetic regulation of gene expression, including genes involved in inflammation, immune function, and neurological health.

3.3 The Annamaya Kosha: A Vedantic Integration

The Vedantic framework of the panchakosha — the five sheaths of the self described in the Taittiriya Upanishad — offers a sophisticated integrative lens through which to understand the healing power of native food environments. The outermost sheath, the Annamaya Kosha (literally: 'the body made of food'), posits that the gross physical body is constituted from and sustained by the food, water, and material elements of one's environment. As the Taittiriya Upanishad states: 'Anna' (food-matter) 'is the medicament of all.'

From this Vedantic perspective, when an individual is uprooted from their native environment and nourished by alien food systems, the Annamaya Kosha becomes constituted by elements that may not resonate with the individual's deepest physiological history. Returning to native foods — prepared with local water, grown in ancestral soil, seasoned with region-specific herbs and spices — represents a literal reconstitution of the physical body from its original, resonant elements. This is not merely metaphorical: the microbiome research reviewed above provides a partial scientific translation of this ancient insight.

Ayurvedic medicine, which shares epistemic roots with Vedantic philosophy, operationalizes this understanding through the concept of desha (place) as a primary determinant of appropriate treatment. The Charaka Samhita explicitly holds that food and medicine must be understood in relation to the desha from which they originate — the local ecology determines the therapeutic appropriateness of foods, herbs, and seasonal practices. An individual whose Annamaya Kosha was originally built from the foods of a specific region may experience a form of physiological homecoming when returning to that region's food ecology — a resonance that contemporary microbiome science is beginning to elucidate.

Integrated with the therapeutic landscapes framework, the panchakosha model suggests a hierarchical model of healing: native environments simultaneously nourish the Annamaya Kosha (through food and soil), the Pranamaya Kosha (through familiar climate, rhythm, and breath), the Manomaya Kosha (through social kinship and cultural recognition), and the Vijnanamaya Kosha (through ancestral wisdom and identity coherence). The convergence of these layers of nourishment may explain why healing in native environments often feels qualitatively different — more complete — than healing in clinical or migratory contexts.

4. DISCUSSION

4.1 Toward an Integrated Homeplace Healing Model

The evidence synthesized in this review, while drawn from heterogeneous disciplines and methodologies, supports a coherent multi-pathway model of Homeplace Effect healing. The model proposes that native birthplace environments exert healing influence through at least four interacting pathways: (1) psychoneuroendocrine regulation through environmental familiarity and reduced novelty-induced stress; (2) social and kinship network activation providing evidence-based buffering of physiological stress responses; (3) microbiome restoration through native foods, traditional fermented preparations, local water, and soil contact; and (4) identity coherence and meaning-making through cultural, spiritual, and ancestral environmental resonance.

These pathways are not independent; they form a mutually reinforcing system. Kinship support and environmental familiarity jointly reduce cortisol, which in turn supports immune function and creates conditions for microbiome diversification. Microbiome health influences the gut-brain axis, supporting psychological stability and reducing inflammatory markers associated with depression and anxiety. Cultural identity coherence, supported by ancestral environments, reduces the chronic psychological burden of marginalization and displacement — burdens that are themselves significant drivers of chronic illness.

4.2 The Native Place vs. Hospital Environment Dichotomy: A Policy Implication

The most clinically significant implication of this review is the systematic undervaluation, in Western biomedical frameworks, of place-as-medicine. Modern hospitals are designed to optimize sterility, procedural efficiency, and infection control — goals that are essential and evidence-based. However, this optimization has inadvertently created environments that are maximally desaturated of the environmental cues, social embeddedness, and cultural familiarity that therapeutic landscapes research identifies as healing-critical.

Healthcare systems that take seriously the evidence reviewed here would consider: integrating culturally and regionally appropriate foods into clinical nutrition protocols; facilitating family and kinship presence as a therapeutic intervention rather than an administrative accommodation; supporting convalescent recovery in home or community settings for appropriate cases; recognizing traditional healing practices as complementary rather than alternative to biomedical care; and treating land-based interventions as evidence-based mental health supports for indigenous and diaspora populations.

4.3 Limitations and Future Directions

Several limitations constrain the conclusions of this review. The indigenous healing literature, while compelling, frequently relies on qualitative and mixed-methods designs, limiting causal inference. The microbiome-native environment research is largely preclinical or epidemiological, and mechanistic pathways in human populations require further elucidation. The therapeutic landscapes literature is geographically concentrated in Australia, the UK, and Canada, limiting global generalizability. Longitudinal designs examining health outcomes across extended homeplace versus migratory trajectories remain rare.

Future research should prioritize randomized or quasi-experimental designs comparing recovery outcomes in native-place versus clinical or non-native settings; longitudinal microbiome studies tracking gut ecology changes with geographic relocation and return; neuroimaging studies examining neural correlates of homeplace familiarity; and participatory research with displaced and diaspora populations to understand when homeplace healing is restorative versus retraumatizing (given that for some individuals, homeplace carries histories of violence or harm).

5. CONCLUSION

This systematic literature review provides convergent, cross-disciplinary evidence for what may be termed the Homeplace Effect: the enhanced healing potential of native birthplace and ancestral environments, operating through psychoneuroendocrine, social, microbiological, and meaning-making pathways. The evidence is most mature in the domains of indigenous land-based healing and therapeutic landscapes, with emerging molecular support from microbiome-environment research. The Vedantic panchakosha framework — particularly its formulation of the Annamaya Kosha as a body literally constituted from local food-matter — offers a culturally integrative model that anticipates contemporary scientific findings by millennia.

Healthcare systems operating in an era of mass displacement, urbanization, and cultural uprootedness are increasingly confronted with patients whose healing is impeded by environments that do not recognize them. The Homeplace Effect invites a fundamental reorientation: not merely 'what treatment does this patient need?'

but 'in what environment can this patient most fully heal?' The evidence suggests that the answer, for many, includes a return to the place where their bodies, microbiomes, and identities were first formed.

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