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Integrating Soul Faculties with the Psycho-Neuro-Endocrine-Immune Axis for Gut-Focused Interventions: Implications for Metabolic Chaos and the Obesity Epidemic: A Narrative Review

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Abstract

Objective: To examine and explore how soul faculties can be integrated with the psycho-neuro-endocrine-immune (PNEI) axis in gut-focused interventions to address metabolic dysregulation and obesity, synthesizing evidence from psychosomatic medicine, neurogastroenterology, psychoneuroimmunology, and integrative health and to achieve the long-awaited integrated unified concept between medicine, psychology, philosophy and theology.

Design: Narrative review of interdisciplinary literature.

Methods: Literature was identified (2010-2025) through PubMed, Scopus, and PsycINFO using keywords including "gut-brain axis," "PNEI," "spirituality," "soul faculties," "obesity", "metabolic dysfunction" and "integrative interventions." Conceptual synthesis was applied and used to map connections between soul faculties and PNEI-mediated gut regulation and pathways relevant to metabolic regulation and integrative interventions.

Results: Psychological, behavioural, and spiritual dimensions influence gut physiology, metabolic homeostasis, and inflammatory tone through PNEI pathways. Soul faculties—meaning-making, intentionality, relationality, and creativity—modulate stress responses, autonomic balance, dietary behaviours, and immune signalling. These mechanisms intersect with known drivers of metabolic chaos, including chronic stress, emotional eating, circadian disruption, and microbiome imbalance. Evidence supports that psychological and spiritual dimensions influence gut function via stress modulation, neuroendocrine signaling, immune regulation, and microbiome balance. Soul faculties—such as meaning-making, intentionality, creativity, and relationality—can be operationalized within gut-focused interventions.

Conclusions: Integrating soul faculties into PNEI-based gut interventions provides a novel framework for addressing obesity and metabolic dysregulation. This approach may enhance resilience, improve behavioural adherence, and support holistic metabolic care. Integrating soul faculties into PNEI-based gut interventions offers a novel framework for holistic care. This approach may enhance patient outcomes, foster resilience, and broaden the scope of integrative gastroenterology. Our work responds to the urgent need for holistic models in obesity care that move beyond calorie-centric paradigms. By mapping soul faculties onto PNEI pathways, we offer a structured approach to understanding metabolic chaos as a multisystem disorder shaped by psychological, relational, and spiritual factors. We believe this integrative model will be of interest to clinicians, researchers, and policymakers seeking innovative strategies for metabolic health. A graphical abstract and conceptual figure are included to support visual clarity.

Keywords: Gut–Brain Axis; PNEI; Soul Faculties; Obesity; Metabolic Chaos; Chronic Inflammation; Microbiome; Stress Physiology; Mind–Body Interventions; Integrative Medicine

Summary Box

What is already known

- Obesity is driven by complex interactions among behaviour, stress physiology, inflammation, and microbiome imbalance.
- The gut–brain axis, mediated by PNEI pathways, plays a central role in appetite regulation, metabolic homeostasis, and inflammatory tone.
- Psychosocial and spiritual factors influence metabolic outcomes but lack structured integration into clinical models.

What this study adds

- Introduces a conceptual model linking soul faculties (mind, intellect, sanskar, relationality, creativity) with PNEI mechanisms relevant to metabolic regulation.
- Frames obesity as a manifestation of "metabolic chaos"—a state of multisystem dysregulation involving neuroendocrine stress, immune activation, and disrupted gut–brain signalling.
- Demonstrates how meaning-making, intentionality, and relationality can modulate stress-eating cycles, vagal tone, inflammatory pathways, and microbiome composition.
- Provides a structured framework for integrating spiritual and existential dimensions into obesity care.

How this study might affect research, practice, or policy

- Supports interdisciplinary obesity interventions that include psychological, behavioural, and spiritual dimensions.
- Suggests new pathways for designing gut-focused metabolic interventions grounded in PNEI and soul-faculty integration.
- Encourages policy frameworks that recognise the role of stress, social disconnection, and existential distress in metabolic disease.

Introduction

Obesity has reached epidemic proportions globally, driven not only by caloric excess but by metabolic chaos—a state of multisystem dysregulation involving chronic stress, neuroendocrine imbalance, immune activation, and gut microbiome disruption [1-2]. Traditional biomedical models often overlook the psychological, existential, and spiritual dimensions that shape metabolic behaviour and physiological regulation.

The gut–brain axis, mediated by psycho-neuro-endocrine-immune (PNEI) pathways, provides a biological bridge linking emotional states, stress physiology, immune tone, and metabolic outcomes. Emerging evidence suggests that meaning, purpose, relationality, and spiritual practices influence metabolic health through these pathways [3-6].

This review proposes a novel framework integrating soul faculties—mind, intellect, action, and sanskar—into PNEI-based interventions for metabolic dysregulation and obesity.

Methods

A narrative review methodology was used. Databases searched included PubMed, Scopus, and PsycINFO (2010–2025). Keywords included gut–brain axis, PNEI, soul faculties, spirituality, obesity, metabolic syndrome, psychoneuroimmunology, and integrative interventions. Articles were screened for relevance to metabolic health, gut physiology, psychosomatic medicine, and spirituality.

Conceptual synthesis was applied to integrate soul-faculty frameworks with PNEI mechanisms implicated in obesity.

Results

The PNEI Axis, Gut Function, and Metabolic Chaos

Metabolic chaos arises when PNEI pathways become chronically dysregulated:

Neuroendocrine dysregulation

- Chronic stress activates the HPA axis, elevating cortisol, which increases visceral fat deposition, appetite, and insulin resistance.
- Dysregulated serotonin and dopamine signalling alters satiety, reward pathways, and emotional eating.

Immune activation

- Low-grade chronic inflammation (metaflammation) contributes to insulin resistance, adipocyte dysfunction, and gut permeability.
- Cytokines influence appetite, mood, and energy expenditure.

Gut microbiome imbalance

- Dysbiosis alters short-chain fatty acid production, gut barrier integrity, and inflammatory tone.
- Microbial metabolites influence appetite regulation and fat storage.

Autonomic imbalance

- Reduced vagal tone is associated with emotional eating, impaired satiety, and increased inflammatory signalling.

Together, these processes create a self-reinforcing cycle of metabolic chaos.

Soul Faculties and Their Relevance to Metabolic Health

Meaning-making

- Protects against stress-induced eating and improves metabolic resilience.
- Associated with lower cortisol levels and healthier lifestyle choices.

Intentionality (Will)

- Enhances adherence to dietary, physical activity, and behavioural interventions.
- Supports long-term habit formation and self-regulation.

Relationality

- Social connection increases oxytocin and vagal tone, reducing emotional eating and inflammation.
- Loneliness is a recognised risk factor for obesity.

Creativity

- Facilitates adaptive coping, emotional flexibility, and neuroplasticity.

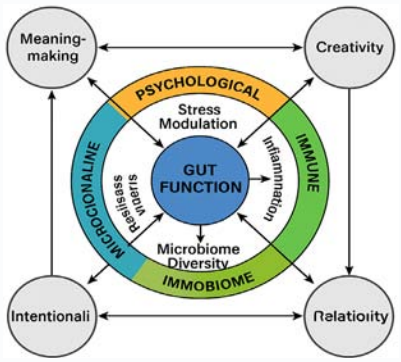

Figure 1. Conceptual model of soul faculties and the psycho-neuro-endocrine-immune (PNEI) axis in gut-focused interventions.
This schematic illustrates how four soul faculties—meaning-making, intentionality, relationality, and creativity—modulate gut function through the PNEI axis. The outer ring represents the key components of the axis (psychological, neuroendocrine, immune, and microbiome pathways). Arrows indicate bidirectional influences: soul faculties shape stress modulation, neuroendocrine signaling, immune regulation, and microbiome diversity, which in turn affect gut outcomes such as motility, inflammation, resilience, and microbial balance. The model highlights the integrative role of existential and spiritual dimensions in gastrointestinal health.

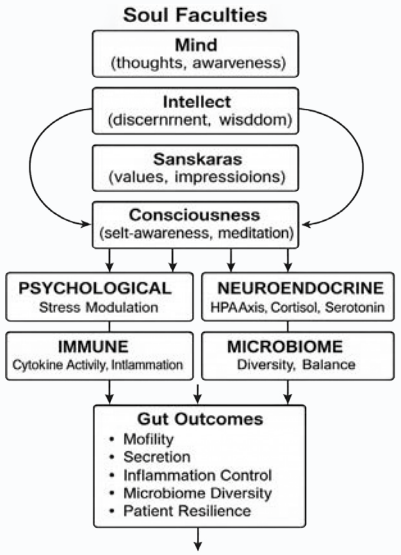

Figure 2. Integrative schematic linking Brahma Kumaris soul faculties with the psycho-neuro-endocrine-immune (PNEI) axis and gut-brain outcomes. Arrows indicate modulation and feedback loops between spiritual faculties, biological pathways, and gastrointestinal function.

- Supports behavioural change and stress reduction.

Sanskar (Impressions)

- Deep-rooted emotional patterns influence eating behaviours, reward sensitivity, and stress responses.
- Healing maladaptive sanskars may reduce compulsive eating and metabolic dysregulation.

Integrating Soul Faculties into Gut-Focused Metabolic Interventions

Mind–body practices

Meditation, yoga, and prayer:

- Reduce HPA-axis activation
- Improve vagal tone
- Lower inflammatory markers
- Support mindful eating and appetite regulation

Narrative and meaning-centred interventions

- Address emotional triggers of overeating
- Reduce stress-driven metabolic dysregulation
- Strengthen identity-based behaviour change

Community and relational interventions

- Improve oxytocin-mediated metabolic pathways
- Reduce loneliness-associated inflammation
- Enhance adherence to lifestyle interventions

Expressive and creative therapies

- Reduce emotional dysregulation
- Support neuroplasticity and behavioural change
- Improve mood-related eating patterns

Conceptual Model

Soul faculties act as modulators of the PNEI axis, influencing gut function through stress reduction, immune regulation, and neuroendocrine balance.

Integrating Prajapita Brahma Kumaris' Soul Faculties with the PNEI and Gut-Brain Axis

Prajapita Brahma Kumaris' Concept of the Soul

- The soul is understood as an eternal, conscious energy distinct from the body.
- It possesses innate faculties: mind (thoughts), intellect (discernment), and sanskars (impressions/values).
- These faculties govern perception, decision-making, and emotional responses, shaping health and behavior (Table 1).

Philosophical Foundation

The Prajapita Brahma Kumaris' tradition conceptualises the soul as an eternal, conscious entity distinct from the physical body. It is

Dimension	Description
Name	*Atma* (Soul, Self) — eternal identity beyond bodily labels
Form	Infinitesimal point of divine light, located at the forehead
Abode	*Paramdham* (Soul World, Supreme Abode) — realm of silence and pure light
Timings	Eternal cycle: enters body ~3–4 months gestation, exits at death, returns to abode
Function	Animates body, governs thoughts, emotions, decisions, and karma
Purpose	Express divine qualities (peace, love, purity, bliss), evolve spiritually, reunite with God
Structural Faculties	**Mind**: generates thoughts **Intellect**: discerns and decides **Actions**: karma expressed through body **Impressions (Sanskars)**: stored tendencies shaping personality
Cycle	Soul World → Entry into body → Life functions → Exit → Return to Soul World

Table 1: Introduction of soul.

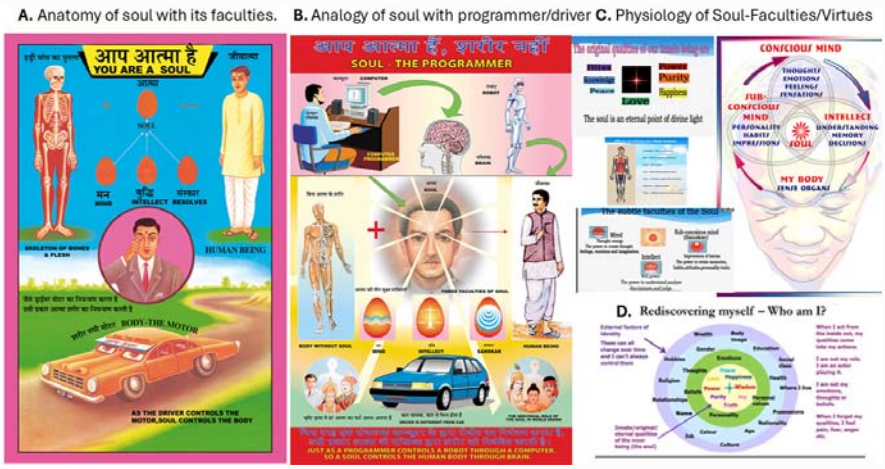

Figure 3: Anatomy, analogy and physiology of the soul.

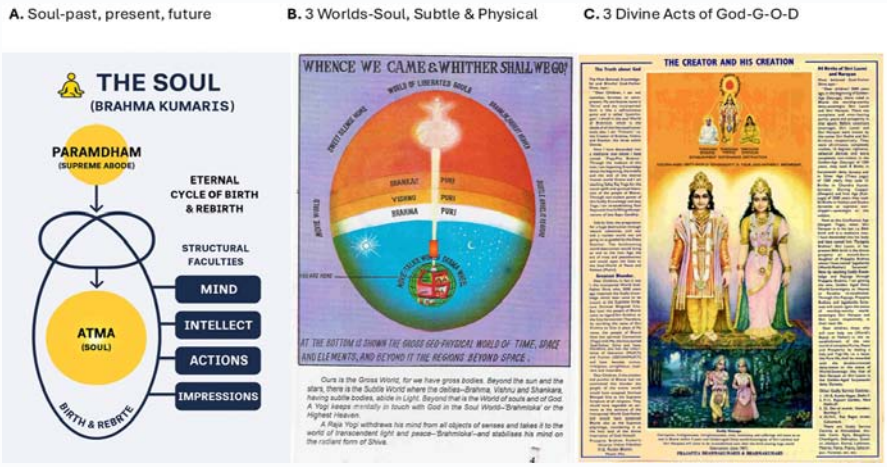

Figure 4: Broader role of the soul, its life cycle, the creator and creations.

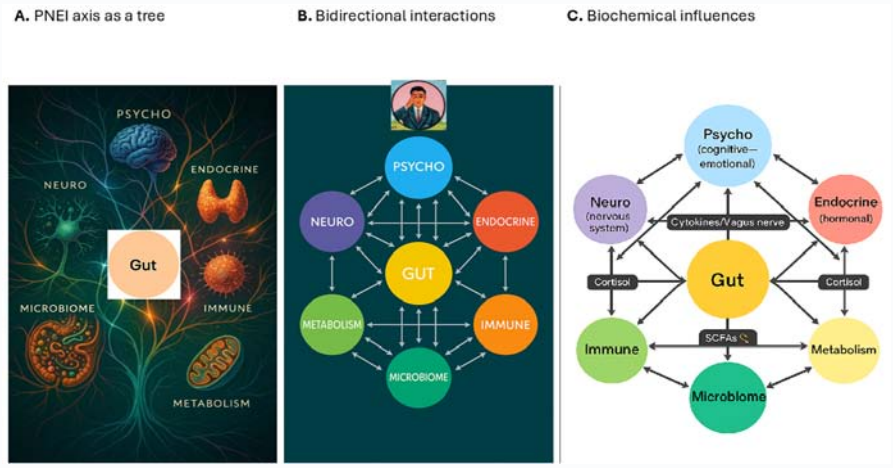

Figure 5: PNEI axis, bidirectional interactions and the biochemical mediators.

understood to operate through three innate faculties: mind (thoughts and awareness), intellect (discernment and wisdom), and sanskars (impressions and values). These faculties shape perception, decision-making, and emotional responses, thereby influencing health and behaviour.

Introduction to soul and its faculties

Prajapita Brahma Kumaris' teaching on self-introduction positions the soul as a tiny, metaphysical, conscious point of spiritual light—distinct from the physical body and its organs—and operating through three intrinsic faculties: mind (thinking), intellect

Soul Faculty (Brahma Kumaris)	PNEI Pathway	Gut–Brain Axis Impact
Mind (thoughts, awareness)	Psychological stress modulation	Alters gut motility, secretion, and microbiome composition
Intellect (discernment, wisdom)	Neuroendocrine regulation (HPA axis, cortisol, serotonin)	Supports balanced signalling between brain and gut
Sanskars (values, impressions)	Immune regulation (cytokine activity, inflammation)	Shapes resilience, reduces gut inflammation
Consciousness (self-awareness, meditation)	Vagal tone, oxytocin release	Enhances relationality, microbiome diversity

Table 2: Mapping soul faculties to APEI axis.

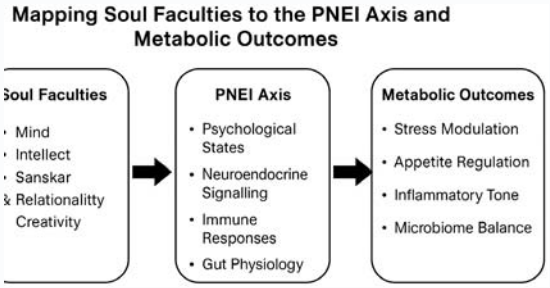

Figure 6: Mapping soul to APEI and Metabolic outcomes.

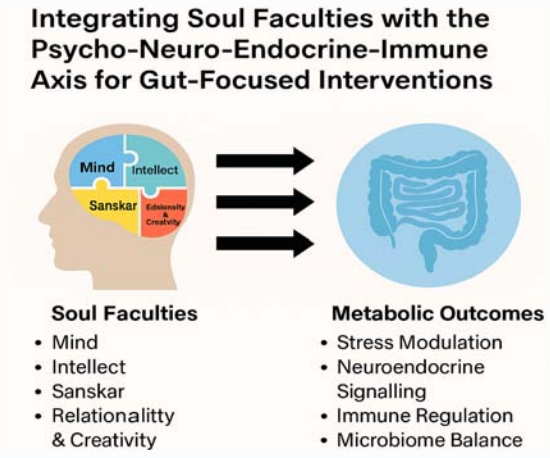

Figure 7: Layered, integrative, and aligned Graphical abstract.

(discrimination/decision), action/s and sanskar (impressions/predispositions). The "seat of the soul" is described as the hypothalamus, from which the soul's control over the nervous system and bodily functions is mediated, with RajYoga practice aimed at stabilizing soul-conscious awareness and virtue expression (peace, love, purity).

The mind is described as the faculty that generates thoughts and emotions; the intellect appraises and decides; sanskars store habits, emotional tendencies, and embodied records of prior actions. Together, these faculties shape behavior and physiological responses through the brain's control systems. In this view, body-consciousness (identification with the body) is considered the root of disturbance, whereas soul-consciousness restores inner regulation and balance.

Mapping Soul Faculties to the PNEI Axis

The psycho-neuro-endocrine-immune (PNEI) axis provides

Figure 8: Policy implications for NHS obesity strategy.

a biological framework for understanding how psychological and spiritual dimensions affect gut function. The Prajapita Brahma Kumaris' faculties can be mapped onto this axis as follows: (Table 2).

Mechanisms of Integration

- Meditative practices (Raja Yoga): Reduce hypothalamic-pituitary-adrenal (HPA) axis activation, lowering cortisol and improving gut motility.
- Soul-conscious living: Encourages intentionality and meaning-making, buffering stress responses that disrupt gut function.
- Value-based sanskars: Promote relational harmony, modulating oxytocin and immune balance.
- Intellect-guided discernment: Supports healthier lifestyle choices, reinforcing microbiome stability.

Conceptual Contribution

This integration positions soul faculties as upstream regulators of the PNEI axis. Through meditation, awareness, and value-based living, they modulate psychological, neuroendocrine, immune, and microbial pathways, resulting in improved gut outcomes such as reduced inflammation, balanced motility, enhanced resilience, and microbiome diversity.

Implications

- Clinical Practice: Incorporating Raja Yoga meditation and value-based counselling into gastroenterology care.
- Research: Empirical testing of soul faculties as modulators of gut biomarkers.

Soul faculty	Core function	PNEI correlate	Primary gut pathway	Example targets
Mind (man)	Thought–emotion generation	Corticolimbic activity, HPA axis	Stress signaling to ENS/vagus	Motility, secretion, permeability
Intellect (buddhi)	Appraisal, discrimination	Prefrontal regulation, top-down control	Vagal tone modulation	Anti-inflammatory signaling, motility normalization
Sanskar (impressions)	Habits, traits, memory	Learned stress patterns, interoception	Autonomic setpoints, immune tone	Barrier integrity, mucosal immunity

Table 3: Conceptual bridge:-Mapping soul faculties to the APEI axis mechanisms.
https://www.shivbabas.org/who-am-i-the-soul
https://bkarticles.home.blog/who-am-i/
https://academic.oup.com/fst/article/39/1/18/8090553
https://www.youtube.com/watch?v=9-c93ql8Tag&t=109s
https://www.mdpi.com/2072-6643/17/5/842
https://elearncollege.com/medicine-and-science/the-gut-brain-axis-and-the-mind-body-connection/

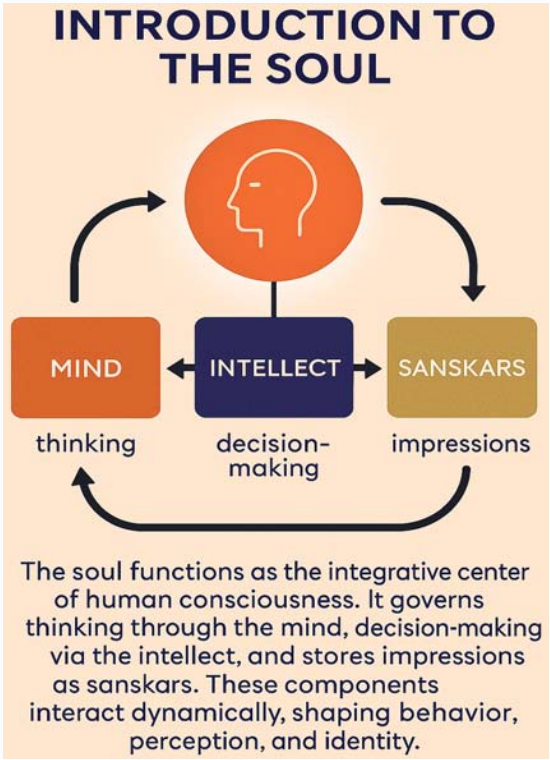

Figure 9: Soul faculties and their bidirectional interactions.

- Education: Training clinicians to integrate spiritual dimensions into patient-centred care.
- Policy: Supporting frameworks that recognise existential and spiritual health in gut-focused interventions.

Discussion

Obesity is not merely a metabolic disorder but a multisystem PNEI disorder shaped by psychological, behavioural, and spiritual factors. The integration of soul faculties provides a structured way to address the deeper drivers of metabolic chaos [7-10].

Why this matters for obesity care

- Stress-eating cycles are rooted in mind–intellect–sanskar interactions.
- Chronic inflammation is influenced by emotional tone and relational health.
- Microbiome composition responds to stress, diet, and spiritual practices.
- Vagal tone is modulated by meditation, compassion, and meaning-making.

This framework aligns with emerging models of psychobiological obesity, metabolic trauma, and neuroimmune dysregulation.

Overview of the PNEI axis and the gut–brain connection

The PNEI axis describes bidirectional communication among psychological states, the nervous system (including the enteric nervous system and vagus nerve), endocrine signalling (e.g., cortisol, serotonin), and immune responses (e.g., cytokines). Gut–brain communication proceeds via neural (vagus/ENS), endocrine (enteroendocrine hormones including serotonin produced largely in the gut), immune (cytokine signalling), and microbial metabolites (short-chain fatty acids) pathways, with gut dysbiosis altering stress responses and mood, and stress reciprocally disrupting gut motility and barrier integrity [11-12].

The vagus nerve is central—a "communication highway" that modulates gut motility, inflammatory tone, and interoceptive signals; vagal modulation is being explored therapeutically (e.g., VNS) for emotional and gut-related imbalances. Microbiota composition—shaped by diet, stress, and environment—affects neuroendocrine and immune setpoints, including early-life programming of stress circuits highlighted in germ-free animal models [13].

Integrating soul faculties into gut-focused interventions provides a multidimensional framework for holistic care. This approach aligns with patient-centered medicine and may improve outcomes in functional gastrointestinal disorders, inflammatory bowel disease, and irritable bowel syndrome. Future research should empirically test the impact of soul-faculty-based interventions on gut biomarkers and clinical outcomes [14].

The gut is closely connected to the brain, hormones, and immune system through what scientists call the psycho-neuro-endocrine-immune (PNEI) axis. Stress, emotions, and lifestyle can all affect gut health. This review looks at how "soul faculties"—our ability to find meaning, act with purpose, build relationships, and express creativity—may also play a role [15].

We suggest that these human capacities can influence the PNEI axis, helping to reduce stress, balance hormones, strengthen immunity, and support a healthy gut microbiome. By including practices such as meditation, storytelling, community support, and creative activities in gut-focused care, doctors may be able to improve patient outcomes in conditions like irritable bowel syndrome or inflammatory bowel disease.

This approach highlights the importance of treating patients as whole people, not just focusing on symptoms, and encourages future research to test how soul faculties can be integrated into medical care (Table 3).

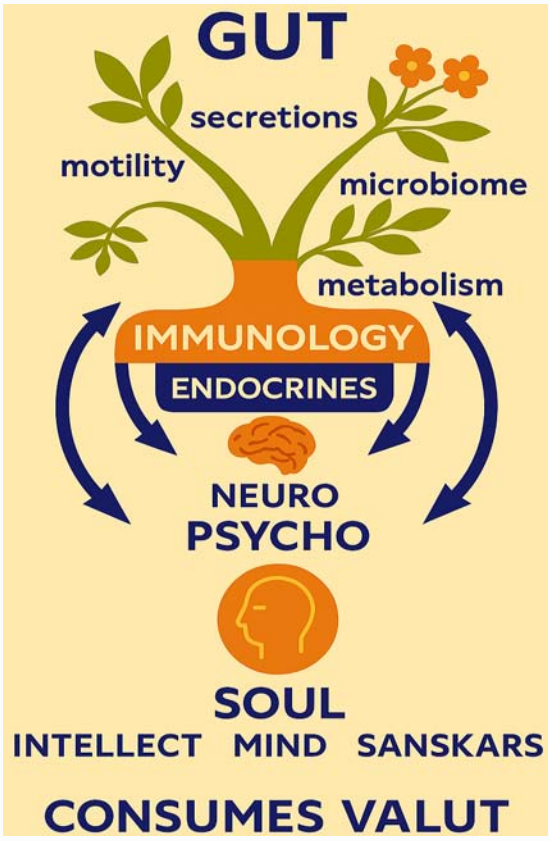

Figure 10: Soul integration to PNEI axis in the form of a tree.

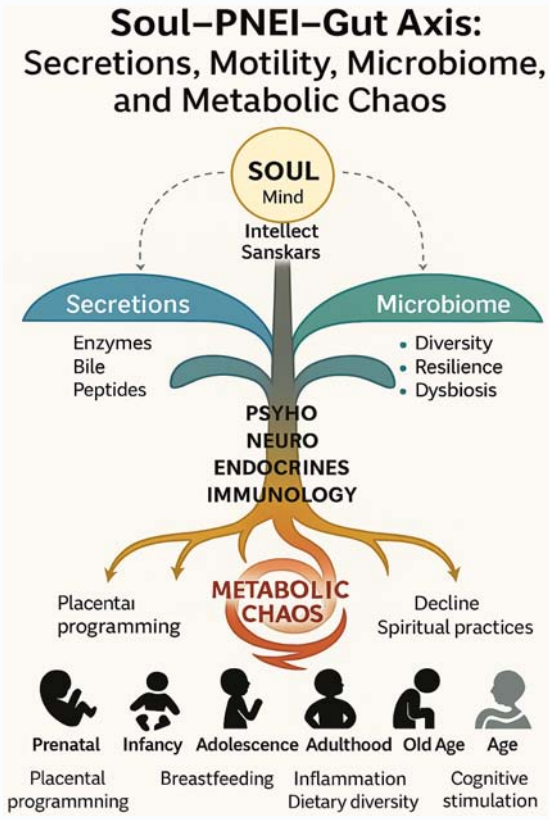

Figure 11: Developmental maturation of soul-APEI-Metabolic axis

Mechanistic synthesis

- Mind → HPA/ANS output: Repetitive stress-laden thought streams heighten HPA axis activity and sympathetic tone, increasing gut permeability and motility variability; calm attentional states reduce cortisol and normalize autonomic balance [16].
- Intellect → top-down regulation: Strengthening appraisal and decision faculties (e.g., choosing non-reactive responses) maps to enhanced prefrontal regulation and vagal tone, which dampens gut inflammation and stabilizes motility via cholinergic anti-inflammatory pathways.
- Sanskar → trait-level physiology: Deep-seated patterns shape baseline autonomic and immune setpoints; re-patterning (sanskar transformation) aligns with durable shifts in stress responsivity, immune cytokine profiles, and microbiota stability.

Targeting gut-related tissues via PNEI-aligned practices

Key gut tissues and pathways

- Enteric neurons and glia: Modulated by vagal and sympathetic input; influence motility, secretion, and local reflexes.
- Mucosal immune cells: Cytokine milieu responds to stress and microbial cues; vagal cholinergic signalling can reduce pro-inflammatory outputs.
- Epithelial barrier (tight junctions): Stress and inflammation increase permeability; calmer autonomic states and favorable microbiota support barrier integrity.
- Enteroendocrine cells (e.g., serotonin): Gut-produced serotonin shapes motility and sensory signaling; diet and microbial metabolites influence release and receptor sensitivity.

Practice framework translating soul faculties to PNEI

- Mind regulation (thought hygiene):
- Intention: Stable, peaceful thought streams to reduce HPA activation.
- Practice: Brief RajYoga soul-consciousness anchoring (awareness at the "seat," virtues recall) before meals and during distress; compassionate reframing to interrupt ruminations.
- Expected PNEI effect: Lower cortisol/sympathetic drive; improved motility regularity and reduced visceral hypersensitivity.
- Intellect strengthening (discernment):
- Intention: Enhance top-down control and vagal tone.
- Practice: Deliberate pauses for appraisal ("Is this reaction aligned with peace/purity?"), paced breathing during appraisal to support vagal engagement.
- Expected PNEI effect: Increased parasympathetic tone; anti-inflammatory signaling to mucosa via the vagus; stabilized gut reflex arcs.
- Sanskar transformation (pattern work):
- Intention: Shift trait-level reactivity and embodied habits.

- Practice: Daily virtue contemplation and journaling to re-encode impressions; consistent ealtime rituals (gratitude, calm ingestion) to associate safety with digestion.
- Expected PNEI effect: More resilient autonomic baseline; reduced pro-inflammatory cytokines; favorable microbiota stability over time.

Gut–brain practical pathways to focus

- Vagus-centric routines:
- Lead-in: Calm attention and gentle breathing while holding soul-conscious awareness.
- Why it matters: Strengthens vagal signaling to the gut; supports motility and immunoregulation.
- Microbiota-aware habits:
- Lead-in: Mindful, unhurried eating anchored in peace; consistent timing to entrain gut clocks.
- Why it matters: Microbial metabolites (SCFAs) influence vagal afferents and immune tone; stress reduction prevents dysbiosis cascades.
- Stress circuit recalibration:
- Lead-in: Rapid cognitive reframing using intellect (buddhi) to choose non-reactive responses.
- Why it matters: Top-down regulation reduces limbic overdrive and HPA outputs, benefiting barrier function and cytokine balance [17-18].

Implementation design for research or clinical education

Measurement bundle

- Autonomic:
- Label: Vagal tone proxy
- Measures: HRV (RMSSD/SDNN) pre/post practice, resting respiratory sinus arrhythmia.
- Endocrine:
- Label: Stress hormone trend
- Measures: Non-invasive cortisol (salivary) diurnal slope.
- Immune:
- Label: Inflammatory tone
- Measures: Serum or salivary cytokines (e.g., IL-6, TNF-α) if appropriate.
- Gut function:
- Label: Barrier/motility cues
- Measures: Symptom diaries (bloating, stool form/timing), validated questionnaires for GI distress.
- Behavioral/sanskar shift:
- Label: Pattern change
- Measures: Repetitive thought indices, reactivity scales, virtue practice adherence logs.

These indices allow you to trace how BK-aligned practices modulate PNEI pathways and gut-related tissue outcomes over time.

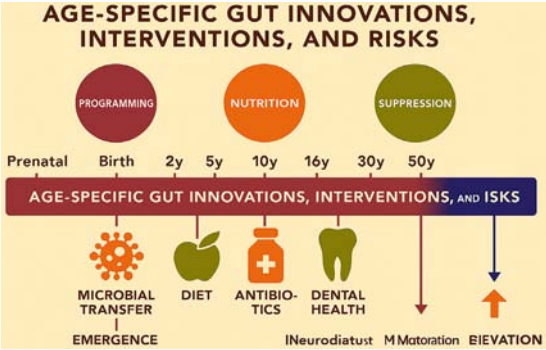

Figure 12: Age specific gut innovations, interventions, and risks.

Nuanced considerations

- Embodied seat vs. physiology: BK references the soul's "seat" in the hypothalamus as the control nexus; in PNEI terms, hypothalamic circuits are central to HPA and autonomic integration—so contemplative focus at this "seat" may correspond to intentional modulation of stress outputs and autonomic balance.
- Language bridging: Mind–intellect–sanskar maps well to thought generation–appraisal–habit memory in neuroscience, enabling common ground without diluting spiritual meaning.
- Ethical clarity: This framework is educational and contemplative; it does not replace medical care. It supports autonomic and behavioral modulation that can be complementary to clinical strategies.

Rationale

The psycho-neuro-endocrine-immune (PNEI) axis has emerged as a central framework for understanding the bidirectional communication between the brain, endocrine system, immune responses, and gastrointestinal function. While biomedical research has clarified many mechanistic pathways, the role of existential and spiritual dimensions—what may be termed "soul faculties"—remains underexplored. Patients with functional gastrointestinal disorders often report experiences of meaning, relationality, and creativity as integral to their healing process, yet these dimensions are rarely incorporated into structured interventions [19-22].

This review is motivated by the need to bridge the gap between mechanistic PNEI models and holistic approaches that acknowledge the human capacity for meaning-making and intentionality. By integrating soul faculties into gut-focused interventions, we aim to provide a conceptual framework that is both biologically grounded and clinically relevant [23-30].

Contribution

This narrative review makes three key contributions:

1. Conceptual Innovation:

- Introduces a novel framework that explicitly links soul faculties (meaning, purpose, relationality, creativity) with the PNEI axis.
- Positions these faculties as modulators of stress,

neuroendocrine signaling, immune regulation, and microbiome balance.

2. Clinical Relevance:

- Highlights practical strategies for embedding soul faculties into gut-focused interventions, including mind-body practices, narrative medicine, community-based approaches, and expressive therapies.
- Provides clinicians with a multidimensional lens for patient-centered care in gastroenterology.

3. Research and Policy Implications:

- Suggests new avenues for empirical research on the role of existential and spiritual dimensions in gut health.
- Encourages policymakers to consider integrative frameworks that extend beyond biomedical reductionism, supporting holistic models of care.

Limitations

This narrative review is conceptual in nature and does not include a systematic appraisal of empirical studies. While the synthesis draws from interdisciplinary literature, the integration of soul faculties with the PNEI axis remains a theoretical framework requiring empirical validation.

Several limitations should be acknowledged:

- **Scope of Literature:** The review is not exhaustive and may have missed relevant studies outside the selected databases or those published in non-English languages.
- **Conceptual Generalization**: The operationalization of soul faculties (e.g., meaning-making, creativity) varies across cultural and clinical contexts, which may limit generalizability.
- **Empirical Gaps**: There is a paucity of direct studies linking soul faculties to measurable changes in gut biomarkers via the PNEI axis.
- **Subjectivity of Constructs:** Constructs such as spirituality, intentionality, and relationality are inherently subjective and may resist standardization in clinical trials.
- **Intervention Diversity:** The review does not evaluate the efficacy of specific interventions but rather proposes a conceptual model for future exploration.

Future research should aim to empirically test the proposed framework using mixed-methods designs, biomarker analysis, and culturally sensitive measures of soul faculties.

Future Directions

Building on the conceptual framework proposed, several avenues for future work are recommended:

Empirical Validation:

- Conduct mixed-methods studies to test the impact of soul faculties (meaning-making, relationality, creativity, intentionality) on gut biomarkers such as cortisol, cytokine profiles, and microbiome diversity.
- Use longitudinal designs to assess resilience and symptom improvement in functional gastrointestinal disorders.

Intervention Development:

- Design structured clinical programs that integrate narrative medicine, expressive therapies, and mind-body practices into gastroenterology care.
- Pilot integrative interventions in diverse cultural contexts to evaluate feasibility and acceptability.

Measurement Tools:

- Develop validated instruments to operationalize soul faculties in clinical research, ensuring cultural sensitivity and reproducibility.
- Incorporate psychometric scales alongside biological measures to capture multidimensional outcomes.

Policy and Education:

- Encourage inclusion of existential and spiritual dimensions in medical curricula, particularly within gastroenterology and psychosomatic medicine.
- Advocate for policy frameworks that support integrative, patient-centered approaches to gut health.

Interdisciplinary Collaboration:

- Foster partnerships between clinicians, psychologists, theologians, and neuroscientists to refine the conceptual model.
- Promote cross-disciplinary conferences and research networks focused on the gut-soul-PNEI interface.

Implications for Practice

- **Holistic Care:** Incorporating soul faculties into gut-focused interventions encourages clinicians to address psychological, spiritual, and relational dimensions alongside biomedical treatment.
- **Patient-Centered Approaches:** Meaning-making, intentionality, relationality, and creativity can be harnessed to improve adherence, resilience, and quality of life in patients with gastrointestinal disorders.
- **Clinical Tools:** Mind-body practices, narrative medicine, and expressive therapies provide practical avenues for embedding soul faculties into routine gastroenterology care.
- **Educational Integration:** Training programs should include modules on the PNEI axis and existential health dimensions to prepare clinicians for integrative practice.
- **Policy Considerations:** Health systems may benefit from frameworks that recognize the role of spiritual and existential factors in gut health, supporting integrative and interdisciplinary models of care.

Policy Implications for the NHS Obesity Strategy

The NHS Long Term Plan identifies obesity as a major driver of chronic disease, health inequalities, and escalating healthcare expenditure. Current strategies emphasise behavioural change, early intervention, weight-management services, and population-level prevention. However, the persistence of rising obesity rates suggests that biomedical and lifestyle-focused approaches alone are insufficient to address the deeper psychosocial and neurobiological determinants

of metabolic dysregulation.

Integrating a PNEI-based, soul-faculty-informed framework into NHS obesity policy could strengthen existing programmes in several ways:

Embedding Stress- and Emotion-Focused Care into Obesity Pathways

Chronic stress, emotional dysregulation, and trauma are major contributors to metabolic chaos through HPA-axis activation, inflammatory signalling, and disordered eating.

A PNEI-aligned policy approach would support:

- Routine assessment of stress physiology and emotional burden in Tier 2 and Tier 3 services
- Integration of mind–body interventions (e.g., meditation, breathwork, reflective practices) that modulate vagal tone and reduce cortisol
- Training clinicians to recognise stress-eating cycles linked to mind–intellect–sanskar patterns

This aligns with NHS priorities on mental health parity and prevention.

Incorporating Meaning-Making and Intentionality into Behaviour-Change Models

Traditional behaviour-change frameworks often focus on motivation, willpower, and education. The soul-faculty model highlights deeper drivers of adherence—meaning, purpose, identity, and intentionality.

Policy implications include:

- Embedding meaning-centred counselling within weight-management services
- Reframing lifestyle change as identity-based transformation rather than compliance
- Supporting personalised care plans that integrate values, purpose, and long-term intentionality

This strengthens the NHS commitment to personalised, patient-centred care.

Addressing Social Isolation and Relational Health as Metabolic Risk Factors

Relationality—connection, belonging, and social support—modulates oxytocin, vagal tone, inflammatory pathways, and emotional eating.

NHS policy could:

- Integrate social-prescribing pathways more explicitly into obesity care
- Expand community-based group interventions that foster relational health
- Recognise loneliness as a metabolic risk factor, not only a mental-health concern

This aligns with the NHS social prescribing framework and community-based prevention strategies.

Recognising Microbiome Health as a Public-Health Priority

The PNEI model emphasises the microbiome as a central regulator of metabolic homeostasis.

Policy opportunities include:

- Public-health campaigns promoting microbiome-supportive diets (fibre, fermented foods, plant diversity)
- Integrating microbiome education into primary-care obesity pathways
- Supporting research on microbiome-based interventions for metabolic disease

This complements NHS commitments to prevention and nutrition-focused health promotion.

Integrating Creative and Expressive Therapies into Weight-Management Services

Creativity enhances neuroplasticity, emotional regulation, and stress resilience—key determinants of metabolic stability.

Policy implications:

- Commissioning pilot programmes incorporating art, music, and expressive therapies in Tier 2/3 services
- Evaluating their impact on emotional eating, stress physiology, and adherence

This aligns with NHS ambitions to expand non-pharmacological, holistic interventions.

Supporting Workforce Training in PNEI-Informed, Holistic Care

To operationalise this framework, clinicians require training in:

- Psychoneuroimmunology
- Gut–brain–immune interactions
- Mind–body practices
- Meaning-centred communication
- Culturally sensitive spiritual assessment

This supports NHS workforce development goals and enhances multidisciplinary care.

Summary

Integrating soul faculties with the PNEI axis offers a systems-level enhancement to the NHS obesity strategy. By addressing stress physiology, relational health, meaning, microbiome balance, and emotional drivers of eating, this framework complements existing biomedical and behavioural approaches. It provides a pathway toward more holistic, personalised, and sustainable obesity care—aligned with NHS priorities in prevention, mental health integration, and community-based support.

Conclusion

Integrating soul faculties with the PNEI axis offers a novel paradigm for addressing metabolic chaos and the obesity epidemic. By acknowledging existential and spiritual dimensions alongside

biological mechanisms, clinicians can design interventions that are biologically grounded, psychologically coherent, and spiritually meaningful. This framework invites new research, clinical innovation, and policy development in integrative metabolic medicine. This narrative review proposes a novel interdisciplinary framework that integrates soul faculties—mind, intellect, sanskar, intentionality, relationality, and creativity—with the psycho-neuro-endocrine-immune (PNEI) axis to address gut-mediated metabolic dysregulation. Drawing from neurogastroenterology, psychoneuroimmunology, and spiritual science, we explore how existential and behavioural dimensions influence stress physiology, immune tone, microbiome balance, and obesity risk. The integration of soul faculties with the PNEI axis represents a novel paradigm in gastroenterology. By acknowledging existential and spiritual dimensions, clinicians can design interventions that are biologically grounded yet holistically oriented. New narrative review integrating soul faculties with the psycho-neuro-endocrine-immune (PNEI) axis for gut-focused care. Meaning, purpose, creativity & relationships may reshape holistic interventions in gastroenterology. Soul faculties offer a precise triad—mind, intellect, sanskar—that maps coherently onto PNEI mechanisms influencing gut tissues via the vagus, HPA axis, immune signaling, and microbiota pathways. RajYoga-aligned practices can be framed as targeted modulators of autonomic balance and stress appraisal, aiming to stabilize motility, reinforce barrier integrity, and reduce inflammatory tone—without medical claims, but with a clear psychobiological rationale. We believe this work will be of interest to clinicians, researchers, and policymakers seeking holistic approaches to gut health.

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