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Manas Prakriti Assessment Inventory (MPAI): Development, Standardization, and Validation of an *Ayurveda*-Based Personality Measure

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ABSTRACT:

Background: In *Ayurvedic* treatises, the state of a person's psyche (*Sattva*) is shaped by the *Triguna* (three mental attributes: *Sattva*, *Rajas* and *Tamas*), whose relative predominance determines an individual's mental constitution, known as *Manas Prakriti*. Although the *Triguna* concept has been examined by several psychologists, methodologically rigorous assessment tools developed within *Ayurveda* remain scarce. **Objective:** To develop the *Manas Prakriti* Assessment Inventory (MPAI) and to evaluate its reliability and validity using structured psychometric procedures. **Material and Methods:** Development comprised systematic item generation, preliminary draft construction, pilot testing, field testing and psychometric analysis. After approval from the Institutional Ethics Committee (Letter No. Dean/2016-17/EC/768), the MPAI was administered to 100 clinically healthy students aged 18-25 years from different departments of Banaras Hindu University, Varanasi; 95 complete responses were analyzed. Reliability was assessed using Cronbach's alpha and Guttman's lambda-2, content validity by a panel of 14 experts, and convergent validity and classification agreement against an existing *Manas Prakriti* questionnaire. **Results:** Internal consistency (n = 95) was satisfactory for the *Sattvika* (*Sattva*-predominant; Cronbach's alpha = 0.806) and *Rajasika* (*Rajas*-predominant; 0.731) dimensions and acceptable for the *Tamasika* (*Tamas*-predominant) dimension (0.684; Guttman's lambda-2 = 0.706). All 14 experts (9 *Ayurveda*, 5 psychology) rated the inventory applicable or strongly applicable. In the 71 participants whose *Prakriti* was classifiable by both instruments, all three MPAI dimensions correlated positively and significantly with the corresponding dimensions of the existing questionnaire (*Sattvika* r = 0.531, p < 0.001; *Rajasika* r = 0.356, p < 0.01; *Tamasika* r = 0.240, p < 0.05), and the two tools assigned the same *Manas Prakriti* to 76.06% of participants (Gwet's first-order agreement coefficient [AC1] = 0.75; 95% confidence interval [CI] 0.63–0.85). **Conclusion:** The MPAI shows satisfactory evidence of reliability and convergent validity for assessing mental constitution in healthy university students aged 18-25 years.

KEYWORDS: *Manas Prakriti*, *Manas Prakriti* Assessment Inventory, Mental Health, Personality Type, Psychology in *Ayurveda*, *Sattva*

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1. INTRODUCTION

In *Ayurvedic* literature, psychological well-being plays an important role in maintaining health and homeostasis. Scholars of *Ayurveda* (the science of life) have defined a systematic framework for understanding the psyche (psychological phenotype), known as *Manas Prakriti* (mental constitution). It is based on the relative predominance of the *Triguna* (three mental attributes), namely *Sattva* (characterized by lightness, knowledge and enlightenment), *Rajas* (characterized by activity, initiation, action and attachment) and *Tamas* (characterized by darkness and ignorance). [1] Contemporary psychologists have emphasized the need for culturally aligned tools to assess the psyche, because many Western psychological concepts and methods show limited validity and relevance in the Indian sociocultural context. [2] Although a few indigenous psychometric scales have been developed on the *Triguna* framework, most are derived predominantly from *Vedic*, *Upanishadic* and *Puranic* literature and have complex scoring patterns and limited accessibility. [3,4,5,6] *Ayurvedic* researchers have also attempted to develop assessment tools based on *Ayurvedic* principles, [6,7,8] but these show several methodological limitations, including limited source selection for trait identification, the use of direct questioning, omission of critical psychological traits, inadequate differentiation between semantically related but distinct traits, non-randomized question sequencing and the lack of a standardized scoring process. These constraints necessitated the development of a new *Manas Prakriti* Assessment Inventory (MPAI). (Supplimentary) The tool aims to provide a comprehensive evaluation of an individual's psychological constitution (*Manas Prakriti*) by including all relevant traits described in *Ayurvedic* literature, and to help identify potential susceptibility to specific behavioral and psychological conditions.

Manas Prakriti*: Concept of Psychological Personality in *Ayurveda: *Ayurvedic* scholars have classified the psyche according to the preponderance of the three *Gunas* (mental attributes), *Sattva*, *Rajas* and *Tamas*, which collectively determine an individual's mental constitution (*Manas Prakriti*). [1] Depending on the proportional distribution of these *Gunas*, individuals show different psychological responses to identical environmental stimuli. Within the framework of inherited *Gunas*, constitutional factors leading to emotional reactivity are attributed to *Rajoguna* (the *Rajas* attribute), those leading to behavioral inertia to *Tamoguna* (the *Tamas* attribute), and those leading to psychological equilibrium or harmony to *Sattvaguna* (the *Sattva* attribute). [1]

The classical texts of *Charaka* and *Sushruta* describe sixteen developmental stages or psychological variants, [1, 9] and *Kashyapa* expands this classification to eighteen variants. [10] Analysis of these variants suggests a hierarchical continuum based on the relative dominance of the three *Gunas*. *Vagbhata*, in *Ashtanga Sangraha*, states that just as seven types of *Deha Prakriti* (physical constitution) arise from the three *Doshas* (regulatory functional factors of the body), seven types of *Sattvadi Prakriti* (mental constitution based on the *Gunas*) arise from the *Triguna*: *Ekala* (dominance of a single *Guna*), *Dwandaja* (dominance of two *Gunas*) and *Samaguna* (balance of all three *Gunas*). [11] As *Ayurvedic* principles are largely based on observation and microcosm-macrocosm analogies, this classification also appears to be based on behavioral patterns and temperament analogous to specific divine personalities. For example, the psychological characteristics described for the *Brahma* type of *Sattva* resemble those attributed to Lord *Brahma*. [12]

Study Objective: The objective of the study was to develop a comprehensive psychometric tool, the MPAI, based on the *Ayurvedic* concept of the human psyche, and to evaluate its reliability and validity using standardized statistical methods.

2. MATERIAL AND METHODS

Development of the *Manas Prakriti* Assessment Inventory (MPAI): The *Brihattrayi*, *Laghutrayi*, *Ashtanga Sangraha* and *Kashyapa Samhita* were the primary sources for developing the questionnaire. *Brihattrayi* refers to the three

major classical compendia of *Ayurveda* (*Charaka Samhita*, *Sushruta Samhita* and *Ashtanga Hridaya*), and *Laghutrayi* refers to the three minor treatises (*Madhava Nidana*, *Sharangadhara Samhita* and *Bhavaprakasha*). The development process followed a structured methodology, described below.

Iterative Scale Development Process: First, the *Brihattrayi*, *Laghutrayi*, *Ashtanga Sangraha* and *Kashyapa Samhita* were reviewed thoroughly to list all traits associated with *Manas Prakriti*. These traits were categorized separately for each personality type to ensure that no distinctive trait was overlooked. The definition of each trait was then confirmed with the Monier-Williams Sanskrit-English dictionary and verified against the commentaries of *Ayurvedic* scholars. Redundant and semantically similar traits were excluded. This yielded a refined list of traits with their appropriate meanings, which was used to develop a construct (question) for each personality type, resulting in the first draft of the questionnaire.

The cover page of the questionnaire contained instructions for its administration and a designated space for scoring and recording participant feedback. This initial draft was presented to a panel of 5 psychologists and 9 *Ayurveda* experts, who evaluated the relevance and appropriateness of each construct in relation to its trait. The questionnaire was refined on the basis of the experts' feedback and pilot tested with 15 students of Banaras Hindu University to evaluate its comprehensibility. On the basis of these participants' feedback, minor linguistic refinements were made to ensure clarity and scientific rigor, resulting in the second draft of the questionnaire. This draft was written originally in Hindi and was subsequently translated into English by a professor from the Department of English, Faculty of Arts, ensuring semantic equivalence.

Design and Structural Framework: The second draft was a self-administered, closed-ended questionnaire of 133 constructs covering *Sattvika* (67 items), *Rajasika* (43 items) and *Tamasika* (23 items) traits. To reduce participants' subjective bias, the constructs were systematically arranged by alternating the placement of items for the different *Manas Prakriti* types (e.g., Q1, Q3, Q5… for *Sattvika*; Q2, Q6, Q10… for *Rajasika*; and Q4, Q8, Q12… for *Tamasika*).

To maintain clarity and reduce response bias, the questionnaire avoided direct or leading questions, double negatives, and complex words or sentences. The aim was to develop a questionnaire that respondents could understand easily and that minimized ambiguity and response bias within a structured, closed-ended format suitable for standardized scoring. The final version of the MPAI was administered as a bilingual (Hindi and English) tool with space for demographic details, allowing participants to respond in the language in which they were more comfortable.

Response Format and Scoring: Responses were recorded on a 5-point Likert scale coded Strongly Disagree (0), Disagree (1), Neutral (2), Agree (3) and Strongly Agree (4), which allowed participants to express a neutral view. The maximum possible score for each *Prakriti* was obtained by multiplying its number of items by 4: 268 for *Sattvika Prakriti* (67 items × 4), 172 for *Rajasika Prakriti* (43 items × 4) and 92 for *Tamasika Prakriti* (23 items × 4). The sum of a participant's item codes for a dimension gave the raw score, which was converted into a percentage of the maximum possible score for that dimension, giving three percentage values for each participant:

Sattvika Prakriti (%) = (raw *Sattvika* score ÷ 268) × 100

Rajasika Prakriti (%) = (raw *Rajasika* score ÷ 172) × 100

Tamasika Prakriti (%) = (raw *Tamasika* score ÷ 92) × 100

Expressing each dimension as a percentage of its maximum possible score is a linear transformation. It preserves each respondent's rank order within a dimension and places the three dimensions, which have unequal numbers of items (67, 43 and 23), on a common 0–100 metric. The final *Manas Prakriti* classification was determined from the percentage differences between the *Prakriti* types, following the seven-fold classification of *Ashtanga Sangraha*, [11] using the following operational criteria:

a) *Ekala Prakriti* (single-*Guna* dominance: *Sattvika*, *Rajasika* or *Tamasika*): the percentage difference between the primary and secondary *Prakriti* is 10% or more.
b) *Dwandaja Prakriti* (dual-*Guna* dominance: *Sattvika-Rajasika*, *Rajasika-Tamasika* or *Tamasika-Sattvika*): the percentage difference between the primary and secondary *Prakriti* is less than 10%.
c) *Samaguna Prakriti* (balance of all three *Gunas*): the percentage differences among all three *Prakriti* types are less than 5%. Participants who met both the *Dwandaja* and *Samaguna* criteria were classified as *Samaguna Prakriti*.

Sample Composition and Data Collection

Study Population and Sampling Methodology: The research was conducted among students of Banaras Hindu University, Varanasi. It was an exploratory study using a survey design and purposive sampling. The study protocol was reviewed and approved by the Institutional Ethical Committee of Banaras Hindu University (clearance letter No.: Dean/2016-17/EC/768). One hundred healthy participants of both sexes aged 18-25 years from the Faculty of *Ayurveda* and the Department of Home Science were included. The target sample of 100 was set according to the Consensus-based Standards for the selection of health Measurement instruments (COSMIN) quality criteria, under which a sample of 100 or more is rated “excellent” and 50–99 “good” for studies of internal consistency. [13] Written informed consent (Supplementary) was obtained from every participant before administration of the MPAI. The age of the cohort was selected on the basis of developmental psychology, which divides human life into stages, each with distinctive characteristics shaped by particular developmental milestones. [14] The 18-25-year age group, which corresponds to “emerging adulthood,” is one of the most actively studied groups and is characterized by maximum construct variance arising from ongoing identity exploration, uncertainty and high stress. [15] Individuals at this stage actively navigate uncertainties about roles, values, behaviors and careers, which makes them a suitable population for psychological research and ideal for developing and validating a new psychometric scale. [16] In addition, many individuals in this age group are college students; hence, the college student community was selected. Participants were deliberately enrolled from a single geographical area to reduce heterogeneity in environment, diet and academic setting, factors that may influence mental and physiological well-being.

Participant Screening and Selection Criteria: Participants were enrolled after a thorough clinical assessment, including a detailed medical history, a comprehensive physical examination and a systematic health evaluation. Psychological health was assessed using the 12-item General Health Questionnaire (GHQ-12). [17] Only volunteers found to be clinically healthy on this evaluation were included; those with major physiological or psychiatric illnesses were excluded from the study.

Data Collection: The final version of the MPAI was administered to 100 healthy students of Banaras Hindu University: 80 from the Faculty of *Ayurveda* and 20 from the Department of Home Science. It was administered under standardized conditions, in both group and individual settings. Of the 100 questionnaires, 5 were incomplete and were excluded, leaving a final analytical sample of 95 participants. Scoring was done meticulously, and the data were entered in a spreadsheet for psychometric analysis.

Analysis of Psychometric Properties

Reliability: The reliability of the MPAI was assessed using Cronbach’s alpha and Guttman’s lambda-2 coefficient.

Content Validity: Content validity was established through a comprehensive review of *Ayurvedic* sources and expert cross-validation. A panel of 5 psychology experts and 9 *Ayurveda* experts reviewed the questionnaire for relevance, item representation and technical quality.

Face Validity: Face validity was assessed in two ways. First, in pilot testing, the questionnaire was given to 15 student volunteers from Banaras Hindu University to assess its comprehensibility and respondents’ engagement. Second,

for linguistic validation, the questionnaire, developed originally in Hindi, was translated into English by a professor of the Department of English, Faculty of Arts; the translated version maintained semantic equivalence and consistency between the two languages. The bilingual authors then reviewed the translation for conceptual equivalence with the Sanskrit source terms, whose meanings had already been fixed using the Monier-Williams dictionary and classical commentaries.

Convergent Validity: Convergent validity was assessed by comparing MPAI scores with those of an existing *Manas Prakriti* Questionnaire developed by Ravi KV et al. (2013), [8] which evaluates the *Sattva*, *Rajas* and *Tamas* dimensions of the psyche. This questionnaire was chosen because it was the only published *Ayurvedic* questionnaire covering *Manas Prakriti* available at the time of data collection. Because the existing questionnaire [8] provides inadequate information on the scoring of *Samaguna Prakriti*, participants classified as *Samaguna Prakriti* by the MPAI (n = 19) were excluded, as no equivalent comparator classification was available. Similarly, participants whose results on the existing questionnaire showed an ambiguous *Prakriti*, that is, who could not be categorized clearly as either *Samaguna* or *Dwandaja* (n = 5), were also excluded. Thus, 24 participants were excluded, and the sample for the convergent validity and agreement analyses was 71. These exclusions arose because the existing questionnaire lacks a defined *Samaguna* category and produced ambiguous results for some participants, not from the MPAI's scoring; the validity findings therefore apply to participants with clearly classifiable *Prakriti* on both instruments. Associations between the corresponding dimensions of the two instruments were examined using Pearson's correlation coefficient (r) with two-tailed p values; $p < 0.05$ was considered statistically significant.

Percentage Agreement: The *Manas Prakriti* classifications of the 71 participants obtained with the questionnaire by Ravi KV et al. (2013) [8] and with the MPAI were cross-tabulated. Agreement was expressed as the percentage of participants classified identically by both instruments and was quantified using both Cohen's kappa (κ) and Gwet's first-order agreement coefficient (AC1), each with a percentile bootstrap 95% confidence interval (CI). The distribution of categories was strongly imbalanced: *Sattvika Prakriti* accounted for 81.7% of MPAI classifications and 85.9% of comparator classifications, and several categories contained two or fewer participants. Under such conditions, the chance-agreement term of kappa is dominated by the most frequent category, so kappa can be low even when observed agreement is high (the prevalence paradox). [18, 19] AC1 adjusts for chance agreement in a way that is far less sensitive to this imbalance and is therefore presented as the main agreement coefficient. [20, 21] To aid the interpretation of kappa, the agreement expected by chance and the maximum kappa attainable given the observed marginal totals (κ_{max}) are also reported. [22, 23] The complete cross-tabulation is presented in Table 6 so that agreement within each category can be examined directly.

3. OBSERVATIONS AND RESULTS

The inventory comprised 133 constructs: 67 assessing *Sattvika Prakriti*, 43 assessing *Rajasika Prakriti* and 23 assessing *Tamasika Prakriti*. The psychometric properties established during test construction are described below.

Reliability: Cronbach's Alpha: The internal consistency of the MPAI, assessed using Cronbach's alpha across all 133 constructs, was 0.776. Cronbach's alpha was 0.806 for the *Sattvika Prakriti* dimension, 0.731 for *Rajasika Prakriti* and 0.684 for *Tamasika Prakriti* (Table 1). A reliability coefficient above 0.7 is considered satisfactory. [24]

Table 1: Cronbach's alpha coefficients for the dimensions of the *Manas Prakriti* Assessment Inventory (MPAI) (n = 95)

Dimension	Number of items	Cronbach's alpha
Sattvika	67	0.806
Rajasika	43	0.731
Tamasika	23	0.684
Total scale	133	0.776

n- Number of participants analyzed. Total scale, all 133 items of the *Sattvika*, *Rajasika* and *Tamasika* dimensions combined.

Item-level analysis showed little change in Cronbach's alpha for the *Sattvika* and *Rajasika* dimensions when any item was removed. For *Tamasika Prakriti*, removing Q16 would slightly raise alpha from 0.684 to 0.707. This item was retained, however, because it assesses a critical facet of *Tamasika Prakriti*, which helps maintain the content coverage and overall psychometric quality of the questionnaire (Supplementary).

Guttman's Lambda-2: Guttman's lambda-2 coefficients were 0.822 for *Sattvika Prakriti*, 0.755 for *Rajasika Prakriti* and 0.706 for *Tamasika Prakriti*, and 0.802 for all 133 items combined (Table 2), consistent with the Cronbach's alpha estimates. Cronbach's alpha is identical to Guttman's lambda-3; Sijtsma showed that alpha is a lower bound to reliability that never exceeds lambda-2, advised against relying on alpha alone, and discussed lambda-2 and the greatest lower bound as better lower-bound estimates of reliability. [25]

Table 2: Guttman's lambda-2 coefficients for the dimensions of the *Manas Prakriti* Assessment Inventory (MPAI) (n = 95)

Dimension	Number of items	Guttman's lambda-2
Sattvika	67	0.822
Rajasika	43	0.755
Tamasika	23	0.706
Total scale	133	0.802

n, number of participants analyzed. Total scale, all 133 items of the *Sattvika*, *Rajasika* and *Tamasika* dimensions combined.

Validity: Content Validity: A panel of 5 psychologists and 9 *Ayurveda* experts evaluated the tool for appropriateness and quality. Of the *Ayurveda* experts, 7 (77.8%) rated the questionnaire as strongly applicable for measuring *Sattvika*, *Rajasika* and *Tamasika Prakriti*, and 2 (22.2%) rated it as applicable while recommending minor changes to the constructs; items flagged as doubtful were subsequently refined (Table 3). Of the psychologists, 4 (80.0%) rated the psychological assessment method as strongly applicable and 1 (20.0%) rated it as applicable, suggesting subtle refinement of a couple of constructs (Table 4). Thus, all 14 experts rated the inventory as applicable or strongly applicable, supporting the content relevance and appropriateness of the MPAI.

Table 3: Content validation of the *Manas Prakriti* Assessment Inventory (MPAI) by *Ayurveda* experts (n = 9)

Rating	*Ayurveda* experts, n (%)
Strongly applicable	7 (77.8)
Applicable	2 (22.2)
Undecided	0 (0.0)
Inapplicable	0 (0.0)
Strongly inapplicable	0 (0.0)
Total	9 (100.0)

Values are number of experts, with percentage of the panel (n = 9) in parentheses.

Table 4: Content validation of the *Manas Prakriti* Assessment Inventory (MPAI) by psychologists (n = 5)

Rating	Psychologists, n (%)
Strongly applicable	4 (80.0)
Applicable	1 (20.0)
Undecided	0 (0.0)
Inapplicable	0 (0.0)
Strongly inapplicable	0 (0.0)
Total	5 (100.0)

Values are number of experts, with percentage of the panel (n = 5) in parentheses.

Convergent Validity: Correlation analysis between the MPAI and the questionnaire by Ravi KV et al. (2013) [8] showed statistically significant positive correlations for all three corresponding dimensions (Table 5). The strength of each correlation was interpreted separately from its statistical significance: the correlation was large for the *Sattvika* dimension ($r = 0.531$, $p < 0.001$), moderate for the *Rajasika* dimension ($r = 0.356$, $p = 0.002$), and small but statistically significant for the *Tamasika* dimension ($r = 0.240$, $p = 0.044$). The smaller *Tamasika* correlation is consistent with the limited representation of *Tamasika* traits in this healthy student sample, which restricts the range of scores; the association may be characterized more fully in samples with greater *Tamasika* representation. Significant cross-dimension correlations were also observed between MPAI-*Tamasika* and Ravi KV-*Rajasika* ($r = 0.305$, $p = 0.010$) and

between MPAI-*Rajasika* and Ravi KV-*Tamasika* (r = 0.246, p = 0.038) (Table 5). These findings support the convergent validity of the MPAI.

Table 5: Pearson correlation matrix for the dimensions of the *Manas Prakriti* Assessment Inventory (MPAI) and the *Manas Prakriti* Questionnaire by Ravi KV et al. (2013) (n = 71)

Dimension	MPAI *Sattvika*	MPAI *Rajasika*	MPAI *Tamasika*	Ravi KV *Sattvika*	Ravi KV *Rajasika*	Ravi KV *Tamasika*
MPAI *Sattvika*	1	−0.047 (0.697)	−0.219 (0.067)	**0.531** (< 0.001)**	−0.151 (0.209)	−0.118 (0.327)
MPAI *Rajasika*		1	0.600** (< 0.001)	−0.040 (0.740)	**0.356** (0.002)**	0.246* (0.038)
MPAI *Tamasika*			1	−0.170 (0.156)	0.305* (0.010)	**0.240* (0.044)**
Ravi KV *Sattvika*				1	−0.246* (0.038)	−0.135 (0.263)
Ravi KV *Rajasika*					1	0.126 (0.294)
Ravi KV *Tamasika*						1

Values are Pearson correlation coefficients (r) with two-tailed p values in parentheses. Coefficients in bold are the convergent correlations between corresponding dimensions of the two instruments; the upper-left block (MPAI × MPAI) gives the intercorrelations among the MPAI dimensions. *p < 0.05; **p < 0.01. MPAI, Manas Prakriti Assessment Inventory; Ravi KV, Manas Prakriti Questionnaire by Ravi KV et al. (2013). [8]

Intercorrelations Among MPAI Dimensions: Intercorrelations among the three MPAI dimensions (Table 5, upper-left block) ranged from −0.219 to 0.600. *Rajasika Prakriti* showed a strong positive correlation with *Tamasika Prakriti* (r = 0.600, p < 0.001), whereas *Sattvika Prakriti* showed non-significant negative correlations with *Rajasika Prakriti* (r = −0.047, p = 0.697) and *Tamasika Prakriti* (r = −0.219, p = 0.067).

Percentage Agreement: Of the 71 participants, 54 were assigned the same *Manas Prakriti* by both instruments: 52 (73.2%) as *Sattvika Prakriti* and 2 (2.8%) as *Sattvika-Tamasika Prakriti* (Table 6). No participant was classified as *Ekala Rajasika* or *Ekala Tamasika Prakriti* by the MPAI, and none as *Tamasika* or *Tamasika-Sattvika Prakriti* by the comparator questionnaire. Observed agreement was 76.06% (54/71), and Gwet's AC1 was 0.75 (95% CI 0.63–0.85), indicating substantial agreement by the benchmarks of Landis and Koch. [26] Cohen's kappa was 0.18 (95% CI −0.04 to 0.39). Because *Sattvika Prakriti* predominated in both sets of classifications, the agreement expected by chance under the kappa model was 70.8%, and the maximum kappa attainable with the observed marginal totals was 0.71 (κ_{max}). The low kappa therefore largely reflects the predominance of a single category in this healthy sample (the prevalence effect) and should be interpreted together with the observed agreement and AC1. [18, 19]

Table 6: Cross-tabulation of *Manas Prakriti* classifications by the *Manas Prakriti* Assessment Inventory (MPAI) and the *Manas Prakriti* Questionnaire by Ravi KV et al. (2013) (n = 71)

	Classification by the *Manas Prakriti* Questionnaire (Ravi KV et al.)						
MPAI classification	**R**	**S**	**SR**	**ST**	**TR**	**TS**	**Total**
R	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
S	0 (0.0)	**52 (73.2)**	2 (2.8)	3 (4.2)	1 (1.4)	0 (0.0)	58 (81.7)
SR	1 (1.4)	5 (7.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (8.5)
ST	0 (0.0)	2 (2.8)	0 (0.0)	**2 (2.8)**	0 (0.0)	0 (0.0)	4 (5.6)
TR	0 (0.0)	1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.4)
TS	1 (1.4)	1 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (2.8)
Total	2 (2.8)	61 (85.9)	2 (2.8)	5 (7.0)	1 (1.4)	0 (0.0)	71 (100.0)

Values are number of participants, with percentage of the total sample (n = 71) in parentheses. Cells in bold (diagonal) indicate identical classification by both instruments. R, Rajasika; S, Sattvika; SR, Sattvika-Rajasika; ST, Sattvika-Tamasika; TR, Tamasika-Rajasika; TS, Tamasika-Sattvika (in Dwandaja types, the first letter

denotes the predominant Prakriti). Observed agreement = 54/71 (76.06%); Gwet's AC1 = 0.75 (95% CI 0.63–0.85); Cohen's κ = 0.18 (95% CI −0.04 to 0.39); chance agreement under the kappa model = 70.8%; κmax = 0.71. AC1, Gwet's first-order agreement coefficient; CI, confidence interval; κmax, maximum kappa attainable with the observed marginal totals.

4. DISCUSSION

Principal Findings: The development of the MPAI was driven by the need for a comprehensive scale to evaluate an individual's *Manas Prakriti*, as pre-existing scales either have methodological limitations or are not sufficiently comprehensive. The MPAI is a psychometric tool, based on the relevant *Ayurvedic* treatises, for assessing *Manas Prakriti* (mental constitution). It showed satisfactory internal consistency, with a Cronbach's alpha of 0.776 and a Guttman's lambda-2 of 0.802 for the full scale. Content validation was performed by a panel of *Ayurveda* and psychology experts, who assessed the appropriateness of the constructs and the structure of the questionnaire. Convergent validity was supported by statistically significant correlations with the existing *Manas Prakriti* Questionnaire by Ravi KV et al. (2013). [8] The two instruments also assigned the same *Manas Prakriti* to 76.06% of participants (AC1 = 0.75). Cohen's kappa was considerably lower (0.18), with 70.8% agreement expected by chance and a maximum attainable kappa of 0.71 under the observed marginal distributions. This difference arises because the distribution of categories was strongly skewed, with *Sattvika Prakriti* accounting for 81.7% of classifications by the MPAI and 85.9% by the comparator, and kappa is strongly dependent on such marginal imbalance. [18, 19] Additionally, several categories contained two or fewer participants, which makes kappa unstable. AC1 was developed for such situations in which one category predominates and gives more stable estimates. [20, 21]

The strong positive correlation between the *Rajasika* and *Tamasika* dimensions (r = 0.600) is consistent with the theoretical structure of the *Triguna*. *Charaka* classifies *Rajas* and *Tamas* together as the two *Manas Doshas* (factors that vitiate the mind), distinct from *Sattva*. [27] A positive *Rajasika–Tamasika* association, together with near-zero or negative correlations of *Sattvika* with both (r = −0.047 and −0.219), is the pattern predicted by the theory.

Directions for Future Research

The reliability and validity evidence for the MPAI opens several avenues for future and integrative research:

a) Extending the study to larger and more diverse populations, covering various age groups, geographical locations and socioeconomic backgrounds, may improve the tool's applicability.
b) Examining the longitudinal stability of *Manas Prakriti*, that is, whether an individual's *Manas Prakriti* changes over time with life events, aging or environmental factors could provide insight into personality dynamics from an *Ayurvedic* perspective.
c) Cross-validation with internationally recognized psychometric tools, such as the Big Five Inventory or the Myers–Briggs Type Indicator (MBTI), may strengthen the tool's acceptance in global psychological research.
d) Adapting the MPAI for clinical settings in a clinician-administered or informant-based format and validating it in psychiatric populations could open new avenues for *Manas Prakriti*-based personalized mental health interventions in *Ayurveda*, especially for patients whose self-report reliability is limited.
e) Examining the relationship of *Manas Prakriti* with *Deha Prakriti* or with physical health outcomes such as immunity, metabolic health and stress resilience could establish the MPAI as an additional tool for predictive and preventive healthcare.

Research in these areas may contribute substantially to the integration of *Ayurvedic* psychology into global research.

Limitations: The study was limited to students aged 18-25 years at Banaras Hindu University; similar studies in other regions and age groups will make the questionnaire more robust. In addition, data were collected with a self-administered questionnaire; other methods, such as

structured interviews, behavioral observation or third-person assessment, could improve the accuracy of psychological profiling. Because the MPAI is self-administered and was developed in a healthy population, it may not be suitable for psychiatric populations with impaired insight and judgment, such as patients with *Unmada* (psychosis) or *Mano-Buddhi Vibhrama* (derangement of mind and intellect). However, separate validation of a clinician-administered or informant-based adaptation could enable meaningful integration of *Ayurveda* into psychiatric practice and extend the use of *Manas Prakriti* assessment beyond healthy populations to personalized mental health care. As the tool is based on *Ayurvedic* philosophy, it may require cultural adaptation and further validation for non-Indian populations. From a psychometric standpoint, establishing test–retest reliability and comprehensive construct validity, including factor-analytic and discriminant validity, will further strengthen the instrument and will be undertaken as the MPAI is applied in further studies.

5. CONCLUSION

The *Manas Prakriti* Assessment Inventory (MPAI) was developed using standardized psychometric protocols. It followed an evolved approach to personality assessment by bridging *Ayurvedic* principles with modern psychological methodologies. In healthy university students aged 18-25 years, it showed expert-rated evidence of content relevance, satisfactory internal consistency for the *Sattvika* (Cronbach's alpha 0.806) and *Rajasika* (0.731) dimensions, acceptable internal consistency for the *Tamasika* (0.684; Guttman's lambda-2 0.706) dimension, and significant convergent correlations with an existing *Manas Prakriti* questionnaire. Test–retest reliability and validation in other age groups, regions and clinical populations will further strengthen the tool for assessing psychological constitution in both healthy and clinical research settings.

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