The personality trait structure in Hindi replicated

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We replicated an earlier psycho-lexical study of personality traits in Hindi. The previous study gave results that deviated from the mainstream of lexical studies. This time an extended list of 357 trait descriptors was administered to 1,250 participants. Half of them provided self-ratings and the other half provided peer-ratings on these same participants. Principal Components Analyses were performed on the combined self- and peer-ratings, both with raw data and with ipsatized data. The resulting trait-structure was strongly evaluative in character, with the ancient personality system, the so-called triguna, seemingly largely determining its content. That structure, built on the three concepts rajasic, representing ambition and friendliness, tamasic, representing egoism and concealment, and sattvic, representing competence and harmony, was identified using triguna marker scales. It is unclear, however, whether it is the triguna that defines the structure, or whether it is mainly information of moral and evaluative character. Although the factors explained the variance in Big Five markers pretty well, the Big Five did not emerge as distinct factors.

Keywords: personality scales, inventories, traits, trait structure, lexical approach, replication

A first psycho-lexically based study of personality traits in Hindi (Singh, Misra, & De Raad, 2013) provided a structure that belongs to the most deviating ones in the history of the psycho-lexical approach. In that structure, with six factors, the first three and largest factors seemed to reflect the distinctions of an ancient typology that is still alive today, the so-called triguna. The triguna historically comprises satvic guna (goodness, harmony, purity), rajastic guna (passion, mobility, energy), and tamasic guna (dullness, indifference, inertia). The second three smaller factors reminiscend of the Big Five Extraversion, Agreeableness, and Conscientiousness. Given the history of the psycho-lexical approach most often producing five- or six-factorial structures reflecting the Big Five or the HEXACO structure, a study with such different results is clearly in need of replication. The present paper aims to do that.

The previous study did not really differ in terms of sample, procedure, and analyses from other studies in the psycho-lexical field. The most striking difference was possibly in the number of trait descriptors used to obtain ratings. That number was 295, which is on the low side compared to most other studies in the lexical field, although studies in Polish and in Italian used smaller numbers of trait terms, with 287 and 285 terms, respectively (Szarota, et al., 1998). A more recent study comparing 14 trait-taxonomies, including Filipino, confirmed the suggestion of replicability of a structure with three factors (De Raad, Barelnds, Levert, et al., 2010). Those three factors are mainly characterized by trait-terms of Extraversion, Agreeableness, and Conscientiousness. The appearance of factors reflecting cultural specifics can be found in, for example, Valchev (2012) and Zeinoun (2016).

What is most striking about studies that deviate from the Big Five structure is that particularly the vast domain of Agreeableness splits into sub-clusters that sometimes can be represented into additional Agreeableness-related factors, often with evaluative or moralistic overtones, such as Honesty-Humility (Ashton et al., 2004), Concern for others (Church, Katigback, & Reyes, 1998), both presented to convey more content than evaluation, or factors with an explicit emphasis on evaluative or morality characteristics (e.g., Almagor, Tellegen, & Waller, 1995).

The six-factor structure in Hindi might also be understood as representing, on the one hand, the pan-cultural three (De Raad, Barelnds, Timmerman, et al., 2014), typically identified by Extraversion, Agreeableness, and Conscientiousness terms, respectively, and, on the other hand, the structure might reflect a system for evaluating behavior that is strongly influenced by the traditional triguna phi-
losophy. *Triguna* traits can well be understood as attributes of character (e.g., Chakrabarty, 1985), thus emphasizing moral features and relating to ethics of virtue.

The *triguna*

The *triguna* is one of the most extensively studied indigenous personality constructs in post-colonial India (e.g., Asthana, 1950; Edgerton, 1965; Frawley, 2006; Gambhirananda, 1995; Halfblass, 1992; Krishnan, 2002; Murthy & Kumar, 2007; Rao & Paranjape, 2016; Suneetha & Srikrishna, 2009). The origin of the *triguna* is in texts of ancient India (Vedas, Upanishads, Mahabharata, Bhagavad-Gita, and the Samkhyan texts), initially documented in Sanskrit during 1500-200 BC, and translated into English during the colonial period. In the post-colonial period, spanning nearly seven decades, the *triguna* has become understood as the proper construct to describe personality in the Indian cultural context.

The Sanskrit word *triguna* combines *tri* and *guna*, referring to three mental attributes of the individual (*guna* means 'cord', 'string', or 'thread'). *Guna* has been discussed elaborately in the Samkhya School of philosophy where it was conceptualized at different levels of abstraction and different manifestations of reality. The personality relevant conceptualization, in this respect, is what is called *prakriti* (human nature), comprising physical, psychological, and ethical features, and constituted of the three *gunas*. In a broad sense, *sattvic guna* is seen as the spiritual quality, and when *sattvic guna* is dominant in a person, that person is seen as inherently desiring to be good and caring. *Rajas* *guna* is seen as the active quality, and when dominant, giving rise to passion and desire. *Tamasic* *guna* is seen as the material quality, related to hopes and illusions (Srivastava, 2012).

The ancient text of the Bhagavad-Gita presents the most elaborate and extensive description of *triguna*, its qualifying attributes, and its reflection in the personality of individual, highlighting its meaning, its constituents, its nature, and also the characteristic behavioural patterns seen in a person who is dominated by any of the three *gunas*. According to Varahamihira (505-587 AD), philosopher and scientist of his time, the three *gunas* deal with three different kinds of temperament (Iyer, 1884). *Sattva guna* denotes good temper. A predominantly *sattvic* person is merciful, firm-minded, strong and sincere. *Rajas* *guna* refers to passionate temper. A *rajasic* person is a poet, learned in various arts, performs sacrificial rites, and is bold and courageous. *Tamasic* *guna* characterizes dark temper. A person with predominance of *tamasic* *guna* is deceitful, ignorant, idle, angry, and sleepy.

Only a few studies are known in which the *triguna* has been studied in relation to other personality measures such as the Big Five (e.g., Mohan & Sandhu, 1988; Singh, 2008; Singh, 2016; Uma, Lakshmi, & Parameshwaran, 1971), and the findings were not consistent and the correlations rather low but significant. For example, Uma et al. (1971) and Mohan and Sandhu (1988) reported *sattvic* to correlate negatively with Extraversion, while Singh (2016) and Khanna, Singh, Singla, and Verma (2013) reported a positive correlation with Extraversion. *Rajasic* has been found to correlate positively with Extraversion in Uma et al. (1971) and in Mohan and Sandhu (1988), negatively in Singh (2016), and zero in Khanna et al. (2013). *Tamasic* was found to correlate positively with Psychoticism (Uma et al., 1971; Mohan & Sandhu, 1988), and positively with Neuroticism (Singh, 2016; Khanna et al., 2013).

In this replication study we aim to arrive at a clarification of trait-psychological thinking in the Hindi context. The findings of the previous study (Singh et al., 2013) and the present results may shed light on the contours of the ancient concept of the *triguna* amidst the full vocabulary of Hindi traits.

**METHOD**

**Participants**

A total of 1,250 Hindi speaking young adults participated in the study. Half of them functioned as targets and provided self-ratings. Each target person was asked to nominate a friend who knew him or her well enough to provide a peer-rating. The target person also had to take care that the friend was prepared to give the rating. We started off with 720 targets who provided self-ratings, but because for only 625 of them peer-ratings were actually obtained, we also used only the corresponding 625 self-ratings. The mean age of the self-rating group was 24.3 years (age range 19-24; SD = 2.41). Among them 72.2% were male and 27.8% were female. The majority of them had completed a post graduate degree (50.6%). Some were Ph.D. students (29.6%), and others were enrolled in undergraduate courses (19.8%). The mean age of the peer-group was 24.3 years (range: 19-28; SD = 2.16) years. Of the peer-raters 72.5% were male and 27.5% were female. Among them 50.7% were post graduates, 31.2% were research scholars, and 18.1% were enrolled in undergraduate courses. All the participants were from urban middle class socio-economic background.

**Material and procedure**

A list of 357 trait descriptive adjectives was used. The full procedure to arrive at this list is given in detail in Singh et al. (2013). Starting with a comprehensive selection of 2,750 trait words from the dictionary, that list was reduced to 2,750 trait words from the dictionary, that list was reduced to 2,750 trait words from the dictionary, that list was reduced to 2,750 trait words from the dictionary, that list was reduced (most descriptive).
Analyses

Since the target was the same for self- and for peer-ratings, the data sets for self and peer were combined, thus providing more stable material. We analyzed both raw data and ipsatized data. We started applying Principal Components Analysis to raw (non-ipsatized) data followed by analysis of ipsatized data, to see which would deliver the clearest structure.

As a help in identifying the factors, we used markers of the triguna, the same set that was used in the previous study, stemming from a list developed by Frawley (2006). These markers are given in the Appendix. The correlations among the three marker-scales in the present study were 0.24, -0.26, and -0.16 for the pairs rajasic-tamasic, rajasic-sattvic, and tamasic-sattvic, respectively.

In the previous study we used markers reflecting the eight-factorial structure of De Raad and Barelds (2008) that included versions of the Big Five, and Hedonism, Virtue and Competence. The extraction of the eight factors in that system influenced the Big Five-related ones, which were not all typical of the Big Five. Because the Big Five is probably better understood internationally, we constructed separate markers for the Big Five. For Hedonism no markers could be identified. For Virtue and Competence marker scales were constructed to enable a optimal comparison with the previous study on the Hindi trait structure. The eight marker scales are given in the Appendix. The marker-scale for Neuroticism correlated virtually zero with the other four Big Five marker-scales, but those other four marker-scales had substantial correlations among each other, running from 0.46 to 0.71. Competence and Virtue correlated 0.62.

Finally, as a further aid in identifying the factors, especially regarding their moral and evaluative meaning, we constructed marker-scales for Honesty-Humility, Positive Valence, and Negative Valence. The three sets of markers are in the Appendix. The correlations among these three marker scales were -0.77 (HH-NV), 0.29 (HH-PV), and -0.05 (NV-PV).

<table>
<thead>
<tr>
<th>Table 1. Eigenvalues expressed in terms of amounts of explained variance</th>
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<td>factors</td>
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Figure 1. Hierarchy of factors (PCA; varimax rotation); combined self- and peer-ratings (raw data)
Table 2. Correlations between raw-data based factors and marker-scales for Triguna, Big Five, Honesty-Humidity, Negative Valence, and Positive Valence

<table>
<thead>
<tr>
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<th>Big Five</th>
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<td>alphas</td>
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</table>

Factors

| 21 | -80 | -68 | 11 | -20 | 39 | 16 | -60 | -01 | 40 | -08 | 74 | -89 | 01 |
| 22 | -32 | 03 | 84 | 75 | 82 | 86 | 10 | 84 | 79 | 87 | 48 | -17 | 78 |
| 31 | -04 | -08 | 83 | 77 | 64 | 80 | 03 | 74 | 65 | 85 | 28 | 01 | 81 |
| 32 | -94 | -04 | 23 | 03 | 69 | 34 | -07 | 35 | 61 | 17 | 80 | -74 | 11 |
| 33 | 23 | 92 | -09 | 15 | -01 | -06 | 77 | 21 | -11 | 10 | -33 | 53 | -07 |
| 41 | -94 | -04 | 23 | 03 | 69 | 34 | -07 | 36 | 61 | 17 | 80 | -74 | 11 |
| 42 | 23 | 92 | -10 | 13 | -02 | -08 | 77 | 19 | -12 | 09 | -34 | 53 | -08 |
| 43 | -02 | -04 | 54 | 72 | 47 | 72 | -01 | 73 | 52 | 71 | 19 | 01 | 63 |
| 44 | -02 | -06 | 71 | 30 | 46 | 35 | 09 | 21 | 38 | 47 | 21 | 02 | 52 |
| 51 | -94 | -03 | 23 | 04 | 69 | 34 | -07 | 37 | 62 | 18 | 79 | -73 | 12 |
| 52 | 24 | 86 | -12 | 14 | -07 | -10 | 66 | 18 | -14 | 09 | -38 | 56 | -01 |
| 53 | -01 | -06 | 38 | 67 | 35 | 64 | -11 | 70 | 43 | 64 | 11 | 04 | 60 |
| 54 | -03 | -07 | 80 | 42 | 54 | 47 | 09 | 33 | 47 | 59 | 25 | 01 | 61 |
| 55 | 05 | 33 | 09 | 06 | 14 | 10 | 44 | 12 | 06 | 05 | 05 | 04 | -17 |
| 61 | -94 | -02 | 23 | 04 | 69 | 35 | -07 | 37 | 62 | 18 | 79 | -73 | 12 |
| 62 | 23 | 86 | -15 | 09 | -08 | -08 | 66 | 16 | -12 | 06 | -38 | 56 | -01 |
| 63 | -03 | -07 | 39 | 63 | 36 | 67 | -10 | 68 | 47 | 62 | 13 | 03 | 61 |
| 64 | -04 | -07 | 77 | 37 | 52 | 45 | 09 | 29 | 46 | 55 | 24 | 01 | 59 |
| 65 | 05 | 33 | 10 | 05 | 14 | 09 | 45 | 10 | 06 | 05 | 05 | 04 | -17 |
| 66 | 10 | 08 | 20 | 37 | 10 | 05 | 04 | 26 | -02 | 28 | -05 | 07 | 14 |

Multiple-R | .97 | .93 | .93 | .83 | .95 | .89 | .81 | .88 | .91 | .89 | .92 | .93 | .88 |

Note: R=Rajasic; S=Sattvic; T=Tamasic; E=Extraversion; A=Agreeableness; C=Conscientiousness; N=Neuroticism; I=Intellect; HH=Honesty-Humidity; NV=Negative Valence; PV=Positive Valence; VIR=Virtue; COM=Competence

Table 3. Self and peer ratings combined, raw-data based, six factors

**Factor 6/1 Rajasic**
- familial (0.77), ambitious, friendly, hardworking, well-mannered, patriot, nice, trustworthy, polite, judicious, sociable, helpful, generous, smart, gentle, adult, patient, knowledgeable, devoted, humble (0.53), versus brutish (-0.81), fraud, hypocrite, deceptive, characterless, cunning, bad, unemotional, unlucky, mean-minded, insensitive, rustic, fighter, violent, cruel, busybody, indolent, selfish, quarrelsome, boastful (-0.55)

**Factor 6/2 Sattvic**
- uncivilized (0.64), iniquitous, impetuous, obstinate, wrongdoer, mischievous, shrewd, unreliable, disobedient, blotched, crooked, neglected, prudish, ungrateful, indecent, acrimonious, jealous, inferior, de-meritorious, unsocial, autocratic, insipid, unashamed, short-tempered (0.50)

**Factor 6/3 Tamasic**
- responsive (0.59), well-behaved, realist, resourceful, gracious, sweet-tongued, impartial, soft-spoken, innocent, reverential, competent, civilized, virtuous, peace-loving, gentleman, great, parsimonious, good-intentioned, forgiving, caring, scholar, truthful, understanding, sentimental, humane (0.44)

**Factor 6/4 Sattvic**
- self-confident (0.59), successful, talented, self-restrained, genius, detached, self-sacrificed, efficient, firm, experienced, energetic, dedicated, idealist, cheerful, flamboyant, sensible, progressive, self-controlled, methodical, workaholic, respectable, disciplined, self-actualized, perseverant (0.45)

**Factor 6/5**
- anxious (0.53), weak, unsuccessful, careless, wistful, indecisive, unresponsive, deviant, absent-minded, ambivalent, distracted, shy, thoughtful, adaptive, distressed, incompetent, foolish, dissatisfied, insistent, impatient, imitative, lethargic, unsophisticated, cantankerous, frustrated (0.36)

**Factor 6/6**
- argumentative (0.53), astonished, antagonistic, liar, strong-willed, unconcerned, extrovert, assertive, brave, licentious, thinker, deviant, altruistic, proficient, valueless, liberated, courageous, recalcitrant, daring, all-rounder, hilarious, frontrunner (0.30)

Note: The figures between brackets are loadings; each two per factor pole indicate the range of loadings for the traits on that factor
RESULTS

We applied Principal Components Analysis, first on raw data and then on ipsatized data, on the combined self- and peer-ratings. In order to make further decisions about which data to use (raw or ipsatized), and about the number of factors to retain, we used eigenvalues, interpretability of the factors, and a factor-hierarchy.

Principal Components Analyses: Raw data

The combined self- and peer-rating data were subjected to Principal Components Analysis, followed by Varimax rotation. The first ten eigenvalues are given in Table 1. Given the eigenvalue-patterns alone, it seemed that the ratings could best be summarized by three large and up to three or four smaller Components (henceforth called factors). To help making further decisions about the appropriate number of factors, we constructed a hierarchy of factors.

Factors were extracted with solutions up to a solution with seven rotated factors, in order to observe the hierarchical emergence of the factors. Figure 1 depicts the emergence of factors in those difference solutions. Between the factors from different solutions, correlations are given to indicate how factors at two adjacent levels relate to each other. For this, only correlations of 0.40 or higher are used. With two or three factors, clear splits of factors represent the emancipation of substantial semantic clusters. This is the case from factor 2/1 to 3/2 and 3/3. From factor 3/1 to 4/3 and 4/4, the overlap in shared variance is rather moderate with a correlation of .50. With more factors, additional factors or splits as in the case of 6/6 to 7/6 and 7/7, the question is whether they are of distinctive interest and whether they explain a substantial amount of variance. For the split of factor 6/6 to 7/6 and 7/7 that is not the case, for which reason the seven-solution is not further considered. Except for the splits of 2/1 and 6/6, most of the factors are virtually the same from level to level.

For the identification of the content of the factors, we used the highest loading trait terms per factor, of which five are contained in the factor boxes of Figure 1, the correlations between the factors, and the various marker-scales. Table 2 contains the alpha reliabilities per scale and the numbers of items per scale, and the correlations between the factors and the marker-scales. Since at best six factors would make sense according to the eigenvalues, the correlations are restricted to the solutions with two to six factors.

The factor 2/1 is related to Negative Valence, in terms of its content (brutish, hypocrite) at the negative pole, and in terms of its correlations, with the NV marker-scale, with H-H, and also with two of the Triguna marker scales, rajasic and tamasic. The factor 2/2 is related to four of the Big Five factors, to Competence, to Virtue, to PV, and to...
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Intellect). This is confirmed by the correlations with the
marker scales in Table 2, the fa
more detail in Table
Factors 6/6 is not clearly identified by any of the marker
scales.

For purposes of comparison with the previous study by
Singh et al. (2013), we presented the six-factor solution in
more detail in Table 3. Considering both the contents and
the correlations with the marker scales in Table 2, the
factors 6/1, 6/2, and 6/4 seem to represent rajasic, tamasic,
and sattvic, respectively, thus confirming the presence of
the triguna. The factors 6/3, 6/5, and 6/6, reflect blends of
Big Five features, with 6/3 representing Competence
(combining traits of Extraversion, Conscientiousness, and
Intellect). This is confirmed by the correlations with the
pertaining Big Five scales, and also by the correlations
with the marker-scale for Competence and that for Positive
Valence (which has frequently been observed to relate to
Intellect in the psycho-lexical literature). Factor 6/4 seems
to combine aspects of the negative pole of Conscientious-
ness and traits of Neuroticism. Only the latter is reflected
in the moderate correlation of 0.45 with N. Factor 6/6
seems to combine traits of Extraversion, (-)Agreeableness,
and of Intellect. The rather meager correlations of .37 with
Extraversion, of .26 with Intellect, and .28 with Compete-
tence, at least do not contradict this interpretation.

The multiple-r’s in the last row of Table 2, based the
factors of the six-factor solution, tell that not only the
information contained in the triguna marker scales is well
covered, but also the Big Five and the other four scales are
well covered.

Principal Components Analyses: Ipsatized data

The combined self-and peer-rating data were ipsatized and
again subjected to Principal Components Analysis, fol-
lowed by Varimax rotation. The first ten eigenvalues are
given in Table 1. On the basis of the eigenvalue-patterns
alone, it seemed that the ratings could best be summarized
by two large and up to three or four smaller factors. To
help making further decisions about the appropriate num-
ber of factors, we constructed again a hierarchy of factors.

Figure 2 depicts the emergence of factors in the diffe-
rent solutions. To aid the interpretations of the factors, the
correlations between the factors and the marker-scales are
given in Table 4. The first factor in all solutions in Figure 2

Table 4. Correlations between ipsatized-data based factors and marker-scales for Triguna, Big Five, Honesty-Humility, Negative Valence, and Positive Valence

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<th>Scales</th>
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sattvic. With three factors, the triguna emerged, and that
remains the case in all further solutions, with factor 4/4
representing sattvic, all the way to factor 7/3. Factor 4/3 is
characterized by traits of E, C, I, and Competence, quite
similar to the Competence factor in De Raad and Bareld
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alone, it seemed that the ratings could best be summarized
by two large and up to three or four smaller factors. To
help making further decisions about the appropriate num-
ber of factors, we constructed again a hierarchy of factors.

Figure 2 depicts the emergence of factors in the differ-
ent solutions. To aid the interpretations of the factors, the
correlations between the factors and the marker-scales are
given in Table 4. The first factor in all solutions in Figure 2
is the same, consistently related to marker scales of rajasic (negatively), Agreeableness, Honesty, Negative Valence, and Virtue; so this factor is definitely strongly evaluative in character. The factor 2/2, characterized by competence, being talented, and self-confident (see Figure 2), and related to sattvic, Conscientiousness, Emotional Stability, and Positive Valence, seems to (weakly) reflect characteristics of Agency (Bakan, 1966). With three factors, the triguna emerged. With four factors, the structure does not get much clearer. Tamasic and sattvic seem to redistribute their contents over the three factors 4/2, 4/3, and 4/4. The first four factors remain virtually the same in the five- and the six-solution. The additional factors do not relate substantially to any of the marker scales. The six ipsatized-data-based factors do a clearly lesser job, in comparison to the raw data, in covering the information contained in the marker scales, in particular the Big Five scales of Extraversion, Conscientiousness, Neuroticism, and Intellect. The six-factor solution is presented more fully in Table 5.

By their contents, there is clearly similarity between the factors presented in Table 5 and those based on the raw data (Table 3). For more direct figures, the correlations between the two sets of factors are given in Table 6. The factors 6/1, 6/2, and 6/4 in the two sets confirm the presence of the triguna. Also, the raw data based factors 6/5, and 6/6 have much in common with the ipsatized data based factors 6/3 and 6/6, respectively.

Claim: Comparison with previous study

In order to check on the consistency of the factor structure across samples, the six-factor structures for self-ratings and peer-ratings and for raw data and ipsatized data from the previous study separately (Tables 1, 2, 3, & 4 in Singh et al., 2013) are taken and the congruencies were calculated after rotating those structures to the present six-factor structure in which self- and peer-rating were combined. This was done using only the common traits in the two studies. The congruencies are given in Table 7.

Regarding the raw data based results, the present factor 6/6 is clearly not replicated, with a congruence coefficient .56. The previously published peer ratings based factors are all well replicated.

With respect to ipsatized ratings, peer-ratings based factors replicated better than those based on self-ratings. The last three factors are clearly not having their equivalent in the previously published factors based on self-ratings.

**DISCUSSION**

In the psycho-lexical personality trait study by Singh et al. (2013) it was concluded that the Hindi trait structure is largely determined by the triguna, a traditional three-dimensional system, with sattvic (harmony, competence), rajasic (friendliness, ambition), and tamasic (concealment, egotism). Those three factors explained most of the variance; yet, for reasons of connectivity to the mainstream findings in the psycho-lexical literature, six factors were reported, of which indeed the triguna were the larger factors, and an additional three smaller factors showed signs of Big Five Extraversion, Agreeableness, and Conscientiousness. That structure was most articulate in raw (non-ipsatized) data. Because that Hindi trait structure clearly deviated from the mainstream results that are most typically represented in the Big Five, or in structures with an additional sixth factor (Honesty Humility) or with two additional factors (Negative Valence & Positive Valence), there was good reason to try to replicate the study.
This was done with an enlarged set of trait descriptors, and with a much larger sample of participants, and with self-ratings and peer-ratings of the same target. Largely the same routine was followed concerning analyses, ultimately resulting in a six-factor structure that showcased the triguna again, and three other factors reflecting blends of Big Five characteristics. These findings were based on the raw data. The ipsatized data, although reflecting the triguna, is described by rather a appreciation of personality, about conveying a correlation between pairs of characteristics, characterized by lack of motivation and inertia. In fact, or as the opposite of which one is guided by desire for things not yet acquired, sires, and lust (e.g., Bhal & Dattya, 1998), but rather in the many attributes not so much in their recurrent abstract qualifications (Ill, 2008), or as the Positive Valence factor as described by De Raad and Barelds (2008), or as the Positive Valence factor as described in Almagor et al. (1995). From their contributing traits, one might well conclude the satvic dimension to combine different traits of virtue (with the explicit meaning of “excellence”; cf. Cawley, Martin, & Johnson, 2000). It is about the moral appreciation of personality, about conveying a standard of moral perfection.

The second factor (3/2), related to rajasic (Passion), is described by hardworking and devotion on the positive pole, which agrees well with drive and energy connotation of rajasic, but it is also described by typical Agreeableness traits, such as nice, trustworthy, helpful, and gentle, which is untypical of rajasic. The negative pole of the dimension equally conveys drive and energy through such aggressive traits as fighter, violent, and quarrelsome. All in all, the factor seems to represent a blend of Negative Valence and Honesty-Humility; it is thus a strong evaluative dimension and less the dimension that should convey desire, dissatisfaction, and lack of control over emotions, so typical of rajasic.

The third factor (3/3), related to tamasic (Dullness), is also characterized by Neuroticism, which agrees well with traits frequently attributed to tamasic, namely fear, instability, and depression (e.g., Mathew, 1995; Uma et al., 1969; Wolf, 1998), but it is also described by rather aggressive traits such as impetuous, mischievous, and short-tempered, which are so untypical of a dimension that should convey indifference, inertia, lethargy, or low initia-

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tive (Mathew, 1995; Uma, 1969; Wolf, 1998). So, notwithstanding the high correlation with the *tamsic* scale, this third factor (3/3) does not seem to be typical of *tamsic*.

In conclusion, this study leaves us with a Hindi personality structure that is deviant from the mainstream psycholinguistic findings, and of which the first two factors seem to convey primarily moral and evaluative information, possibly of the type expressed in Positive Valence and Negative Valence, if not *sattvic* and *rajasic*. The factors beyond the first three, in solutions with four up to six factors, are far from clearly identified in terms of either the Big Five or the Big Six (HEXACO).

REFERENCES


APPENDIX

Markers of Triguna

Sattvic (guided by TRUTH & ILLUMINATION): well-behaved, impartial, competent, gentleman, organized, understanding, virtuous, capable, caring, adored, scholar, calm, humane, committed, gentle, civilized, sober, realist, harmonious, simple, resourceful, level-headed

Tamasic (guided by DARKNESS & CONCEALMENT): crooked, restless, arrogant, neglected, egoist, frustrated, a-social, intolerant, disorganized, mean-minded, orthodox, snobbish, mischievous, dissatisfied (2x), self-destructive, obstinate, prudish, unsuccessful, irritable, indecent

Rajasic (guided by PASSION & MOTION): ambitious, friendly, hardworking, well-mannered, smart, sociable, knowledgeable versus hypocrite, flatterer, cunning, deceptive, busy-body, insensitive, violent, bully, cruel, showy, boastful, quarrelsome, foul-mouthed

Markers of Big Five

Extraversion: active, cheerful, assertive, energetic, extravert, flamboyant, fun-loving, lively, optimistic, outgoing, outspoken, spontaneous, sympathetic, talkative, witty

Agreeableness: benevolent, caring, cooperative, empathetic, friendly, generous, gentle, helpful, honest, humble, humane, kind, kind-hearted, nice, peace-loving, polite, social, tolerant, trustworthy, truthful, understanding, virtuous

Conscientiousness: ambitious, busy, conscientious, disciplined, efficient, hard-working, methodical, organized, perseverant, scholarly, dedicated, practical, skillful, workaholic

Neuroticism: angry, anxious, cantankerous, cowardly, dissatisfied, distracted, fearful, hurried, seasons, wavering, short-tempered

Intelect: artistic, bookish, clever, competent, complicated, connoisseur, curious, explorative, genius, gifted, imaginative, ingenious, intelligent, knowledgeable, open-minded, progressive, self-reflective, sharp, talented, thinker, worldly-wise

Markers of Honesty-Humility: honest, humane, humble, trustworthy, truthful, loyal, versus boastful, deceptive, egotistic, fraudulent, hypocrite, selfish, unjust, unreliable

Markers of Negative Valence: bad, brutish, cruel, fraud, inferior, mean-minded, mischievous, sinful, uncivilized, wicked

Markers of Positive Valence: capable, commendable, competent, genius, gifted, godly, gracious, great, proficient, respectable, scholar, splendid, successful, talented

Markers of Virtue: friendly, loyal, good, good character, civilized, polite, kind, benevolent, gentle, respectable, virtuous

Markers of Competence: capable, competent, energetic, flamboyant, gifted, helpful, imaginative, impartial, open-minded, optimist, realist, resourceful, scholar, splendid, straightforward, connoisseur, determined, frontrunner, karma-yogi

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