

APPLICATION OF THE INTERACTIVE MODEL IN THE CONTEXT OF INDIVIDUALISM AND COLLECTIVISM

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ABSTRACT

The objective of the present study was to apply the Interactive Model methodology to the Individualism-Collectivism: Horizontal and Vertical Models to better understand the last model. The sample consisted of 271 individuals and the Idiocentric-Allocentric Athlete Profile Inventory was used. Multiple analyses of variance revealed that when the constructs become polarized, as in the Idiocentric supremacy, greater are the individual needs for differentiation from others, success and achievement. As the constructs get balanced, the individuals tend to present more egalitarian attitudes, and allocentric individuals seek benefits for the group, submission and hierarchy. In conclusion, one can infer that as the fields of idiocentrism and allocentrism become more distant from the bisector, the vertical dominion increases (hierarchy), while a greater proximity with the bisector favors the horizontal dominion (equality). These areas don't reflect the predominance or not of one construct over the other anymore.

Keywords: Individualism-Collectivism; Interactive Model; Typological groups.

APLICAÇÃO DO MODELO INTERATIVO NO CONTEXTO DO INDIVIDUALISMO E COLETIVISMO

RESUMO

O objetivo deste estudo foi aplicar a metodologia do Modelo Interativo no modelo do Individualismo-Coletivismo: Horizontal e Vertical para melhor entender este último modelo. A amostra foi composta por 271 indivíduos e foi utilizado o Inventário de Perfil Idiocêntrico-Alocêntrico para Atletas. Múltiplas análises de variância revelaram que quando os construtos tornam-se polarizados, como na supremacia idiocêntrica, mais os indivíduos necessitam diferenciar-se dos demais, buscando sucesso e realização. Quando os construtos tornam-se equilibrados, os indivíduos tendem a apresentar atitudes igualitárias e os indivíduos alocêntricos buscam o benefício do grupo, submissão e hierarquia. Em conclusão, pode-se inferir que quando os campos do idiocentrismo e alocentrismo tornam-se mais distantes da bissetriz, o domínio vertical aumenta (hierarquia) e a maior proximidade da bissetriz favorece o domínio horizontal (igualdade). Esses domínios não mais refletem a predominância ou não de um construto sobre o outro.

Palavras-Chave: Individualismo-coletivismo; Modelo Interativo; Grupos tipológicos.

INTRODUCTION

Cross-cultural studies seek to demonstrate the universality of certain basic psychological processes, within a variety of cultures. Among such studies, research evaluating the constructs of Individualism and Collectivism can be found (Hui, 1988; Hui & Villareal, 1989; Morling & Lamoreaux, 2008; Oyserman, Coon & Kimmelmeier, 2002; Schwartz, 1990; Singelis, 1994; Triandis, 1989, 1994, 1995, 1999, 2002; Triandis & Gelfand, 1998). Hofstede (1980) is considered the precursor of studies in this field. While measuring cultural values among 117.000 individuals from 39 countries, he determined four

basic dimensions that influence human values, denominated as: a) Power Distance; b) Individualism-Collectivism; c) Masculinity-Femininity; and d) Uncertainty Avoidance.

In general, studies in the field of Individualism and Collectivism demonstrate that individualistic cultures (Western Europe, North America, Australia and New Zealand) value individual over group autonomy in all aspects, including the cognitive, affective and behavioral; emotional distance from the groups, implying distance from relatives and ancestral groups; the pursuit of self-realization and success and the individual goals over collective goals, which assures them contractual-type relationships (Carter & Dinnel, 1997; Earley, 1989; Marshall, 1997; Triandis, 1994). In contrast, collectivistic cultures (Africa, South America, China, Japan, Hong Kong) value group over individual goals, where individuals are an indispensable part for group survival, present strong relationships with in-group

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members and share the same interests. This group sociability assures them a strong tendency for cooperation and the completion of obligations (Earley, 1993; Matsumoto, 1998; Sinha & cols. 2001).

Although Kagitçibasi (1994) affirmed that individualistic cultures tend to produce individualistic individuals, while collectivistic cultures tend to produce collectivistic individuals, Triandis (1989, 1995) observed that there are individualistic and collectivistic individuals in both cultures and suggested the terms *Idiocentric* and *Allocentric* to designate individuals with a predominance of individualistic and collectivistic traits, respectively.

Thus, *idiocentric* individuals present a self-concept independent of the group they belong to and are characterized by emotional distancing, wherein their personal objectives are held above those determined by the group, favoring the formation of contractual relationships. In contrast, *allocentric* individuals present an interdependent self-concept, valuing family unity and bonds of solidarity with the groups they belong to, conditioning themselves to these groups, perceiving them as harmonious, homogenous and hierarchical, emphasizing safety, good interpersonal relations and in-group harmony (Bontempo, Lobel & Triandis, 1990; Triandis, 1989; Triandis & cols., 1985; Vijver & Watkins, 2006).

The verification that cultures are formed by *idiocentric* and *allocentric* individuals, as well as the perception that cultures with the same profile differ from each other, led Triandis (1995) to formulate the *Individualism-Collectivism: Horizontal and Vertical* model. In this model, the *Horizontal* dominion is based on equality, while the *Vertical* dominion is based on hierarchy, classifying individuals into four main groups: *Vertical Individualism (VI)*, *Horizontal Individualism (HI)*, *Horizontal Collectivism (HC)* and *Vertical Collectivism (VC)*.

Cultures characterized by *Vertical Individualism (VI)* prioritize individual needs over group needs and pursuit social status, favoring power and competition, while those based on *Horizontal Individualism (HI)* establish that individuals are distinct from the group and that they pursue their own goals, without the need to distinguish themselves from the group or possess high status. In *Horizontal Collectivistic (HC)* cultures, the individuals perceive themselves as similar to others in the group (equality),

emphasizing common goals, interdependence and sociability, although they will not submit themselves to authority. Those based on *Vertical Collectivism (VC)* are concerned with unity within the groups they belong to; the individuals are prepared to sacrifice personal goals to benefit of group goals and assist in competitions between their group and the remaining groups; thus, they prioritize obedience and hierarchy, the latter in the sense of submission.

According to Triandis (1999, p. 130), however, “every individual possesses a combination of the vertical and horizontal dominions, thus using cognitive individualistic or collectivistic elements depending on the social situation”. Although flexibility occurs in individual attitudes, a tendency exists toward specific behaviors in a determined dominion and dimension. This statement by Triandis (1999) that all individuals possess a combination of vertical and horizontal dominions, as well as that by Gouveia and cols. (2002, p. 204), that “individualism and collectivism can coexist in the same person or culture”, alludes to questions regarding the dimensionality of these constructs.

Initially, these constructs assumed a unidimensional conception since, through the *Individualism Index*, Hofstede (1984) determined that high scores defined individualistic cultures, while low scores determined collectivistic cultures. Later, these concepts were treated as bidimensional (Triandis & Gelfand, 1998, p.121), meaning that “a person could obtain high or low scores in both dimensions or high in one and low in the other”. Currently, they are conceived as multidimensional constructs (Gouveia & cols., 2002).

According to Giavoni and Tamayo (2000), multidimensional psychological structures can be reduced to bidimensional structures, while the reverse is not possible. It is a misunderstanding to assume that multidimensional structures invalidate the remaining conceptions. This misunderstanding is in confounding the dimensions that compose the structure with the structure itself. A construct can be evaluated through its dimensions but it is also possible to evaluate its spatially [...]. By assuming a spatial form, each construct can be resumed in a single vector (or a single measurement) capable of representing it in a bidimensional context.

Based on cross-cultural studies of *Individualism and Collectivism*, according to the concept of Triandis and Gelfand (1998) that these

are bidimensional constructs, and on the affirmation by Gouveia and cols. (2002) that the same person/culture can present aspects of both constructs, the Interactive Model methodology (Giavoni & Tamayo; in press) can be used to form typological groups.

Initially conceived to measure the interaction between masculine and feminine schemas of self-concept, the Interactive Model (Giavoni & Tamayo, in press) proposes to evaluate the psychological synthesis resulting from the interaction that is established between constructs with dual or opposing natures. This concept is similar to the Dialectic Synthesis in Hegelian philosophy, in which

all reality moves dialectically and, thus, Hegelian philosophy sees everything as triads of thesis, antithesis and synthesis, with antithesis representing "negation" or "contrary" or "being different" from the thesis and synthesis constituting the unity and, at the same time, the act of making true one and other. (Abbagnano, 1982, p. 255)

Based on a bidimensional conception, the model defines three mathematical variables, denominated angle, distance and synthesis. The angle variable measures the proportionality between the constructs, while the distance variable measures their level of development. The intersection of the angle and distance variables results in a series of fields, which define distinct typological groups (Giavoni, 2000).

Applying the Interactive Model in the context of Individualism-Collectivism, this opposing pair is formed of and can be expressed as independent constructs and is, thus, bidimensional. Mathematically, these constructs can be represented by two vectors that generate a vectorial plane, where the bisector divides the plane into two areas: the area of Individualism and the area of Collectivism. Figure 1 presents the vectorial plane generated from the constructs of Individualism and Collectivism. Since the proposal of this study was to evaluate differences in individual subjectivities and not at a cultural level, these areas were denominated the Area of Idiocentrism (I) and the Area of Allocentrism (A) (Giavoni, 2000).

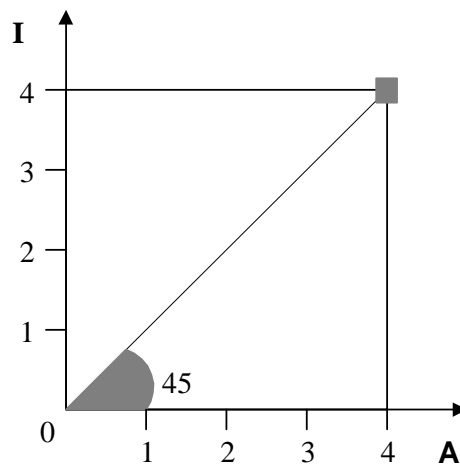


Figure 1. Idiocentrism and allocentrism fields formed in the vectorial plane

The bisector is a continuum that starts at zero (the absence of constructs), and ends in 4 (maximum development of the constructs), so that each vector varies from 0 to 4. The bisector defines the proportionality between constructs (e.g., ordinate pairs 1,1; 2,2; etc.) while pairs that are far from the bisector tend to be disproportional.

Since proportionality between constructs is evaluated by the angle $\hat{\alpha}$, the variable that

determines the degree of proportionality between constructs was denominated as the angle variable. Figure 2 presents the vectorial plane divided into fields denominated Isocentric (fields that present proportionality between the constructs), Heteroidiocentric (fields that present predominance of idiocentrism over allocentrism) and Heteroallocentric (fields that present predominance of allocentrism over idiocentrism).

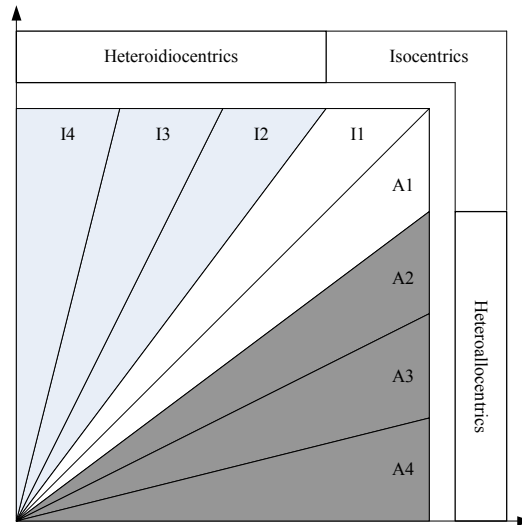


Figure 2. Fields formed in the vectorial plane using the angle variable

As the fields become distant from the bisector, there are disproportional increases in the constructs, with the predominance of idiocentrism over allocentrism in fields I_2 to I_4 and of allocentrism over idiocentrism in fields A_2 to A_4 .

In psychological terms, the angle variable determines that individuals with predominance of one construct over the other tend to: a) memorize attributes related to the dominant construct; b) engage in behaviors consistent with the dominant construct and avoid behaviors consistent with the dominion of the rudimentary schema; and c) have their perception of events governed by the dominant construct, among other aspects. In contrast, individuals that present symmetry between constructs tend to memorize, engage in and perceive events using elements from both constructs. Since they do not present predominance of one of the constructs, they tend to present more flexible responses compared to the other groups. The psychological influence of this variable is based on studies relating cognitive schemas and memory, demonstrating the perceptive influence and therefore, cognitive, affective and behavioral influences of the dominant schema (Bem, 1981; Markus & cols., 1982; Mills, 1983).

Given the complexity of the model, this study used only the dominions of the angle variable to classify subjects into typological groups and later evaluate the psychological profiles as a function of idiocentrism-allocentrism. Thus heteroidiocentric individuals were expected to express a tendency to value self-realization, competitiveness, power,

fame, social status, wealth, the pursuit of pleasure, personal gratification and the enjoyment of life, as well as showing greater emotional distance from the group, due to the predominance of idiocentrism over allocentrism.

Given the predominance of allocentrism over idiocentrism, heteroallocentric individuals were expected to express a tendency to value unity and integrity, respect, obedience, group honor, understanding, tolerance and attention to the well-being of the group. The proportionality between constructs observed in isocentric individuals would result in egalitarian behaviors and attitudes in relation to the group, while valuing individual conquests.

METHOD

Participants

The sample consisted of 271 athletes, 57.6% males, with a mean age of 21.17 (SD=3.73) years-old and educational level varying from non-completion of high school to completion of undergraduation. Among the athletes, 28% practiced individual modalities (judo, gymnastics, swimming, and athletics) and 72% practiced team modalities (volleyball, indoor soccer, basketball, handball, soccer). The athletes trained 5.45 (SD=2.28) times a week on average, with training lasting 129.12 (SD=48.17) minutes per session. The period of involvement in the modality was 9.73 (SD=4.12) years on average.

This project was approved by the Ethics Committee of a Higher Education Institution, under protocol N. CEP/UCB 80/2007.

Measures

To classify the subjects in the typological groups of the Interactive Model, the Idiocentric-Allocentric Athlete Profile Inventory (I-A Profile) (Melo & Giavoni, 2010) was used. This instrument was idealized from a theoretical model composed of three levels: a) Level 1, categories (individualism and collectivism) and subcategories that compose idiocentrism (Self-Realization & Competitiveness, Hedonism, Emotional Distance from the Team) and allocentrism (Interdependency and Team Integrity); b) Level 2, adjustment of the profiles of the typological groups (VI, HI, VC, HC) of individualism-collectivism: Vertical and Horizontal Model to the subcategories; and c) Level 3, elaboration of the items of each subcategory, in order to describe the values of the groups VI, HI, VC and HC designed to the subcategories.

After validating the instrument (Factorial Analysis, Principal Axis Factoring, with oblique rotations and factorial loads equal to or greater than 0.35), it consisted of 27 items, 16 for the Idiocentrism scale and 11 for the Allocentrism scale, which measured the behaviors and attitudes of athletes in relation to themselves and in relation to the team.

The Idiocentrism scale is composed of the following factors, Self-realization & Competitiveness ($\alpha=0.79$), Hedonism ($\alpha=0.74$), Emotional Distance from the Team ($\alpha=0.76$) and a second order factor denominated the Level of Idiocentrism ($\alpha=0.81$); while the Allocentrism scale is composed of a single factor denominated Level of Allocentrism ($\alpha=0.76$). The arithmetic means obtained for the level of idiocentrism and level of allocentrism were used to position the individuals in the fields of the Interactive Model.

Procedures

The instruments were applied by the researcher at Brazilian university sporting events and were also handed to coaches of high performing teams. The coaches received instructions regarding the application of the instrument directly from the researcher and the envelopes also contained printed instructions. During competitions in Brazilian sporting events,

the coaches were asked to apply the instruments in the hotel, while the athletes rested. The instruments applied in sports clubs were sent by registered mail (FedEx), while instruments applied at sporting events were handed to the coaches at the hotel reception and returned directly to the researcher.

RESULTS

1) Classification of the athletes in the typological groups of the Interactive Model

To classify each athlete in the fields of the Interactive Model, the scores for the level of idiocentrism (LI) and level of allocentrism (LA) were used. Once the position of the athletes in the fields of the model was established, the distance of each athlete in relation to the bisector could be determined using the mathematical expression $\hat{\alpha}=45^\circ - \arctan \hat{\epsilon}$; where $\hat{\epsilon}=LI/LA$. After obtaining these distances, the athletes positioned between $-3.83^\circ < \hat{\alpha} < +3.83^\circ$ were classified as Isocentric (ISO), since in this interval, the scores for LI and LA were not significantly different from one another (by paired sample t test); thus showing symmetry or proportionality between the constructs.

Given the number of subjects per field, athletes who were positioned beyond -3.83° ($\hat{\alpha} < -3.83^\circ$) from the bisector were classified as heteroidiocentric (HI) individuals, athletes who were positioned between $3.83^\circ < \hat{\alpha} < 8.12^\circ$ from the bisector as heteroallocentric 1 (HA1) individuals and those who were positioned between $8.12^\circ < \hat{\alpha} < 13.00^\circ$ from the bisector were classified as heteroallocentric 2 (HA2) individuals. Figure 3 presents the eight fields formed by the angle variable in both areas of idiocentrism and allocentrism, as well as the number of subjects per field.

2) Evaluation of the psychological profile of the typological groups

To evaluate the psychological profile of the typological groups, Multiple Analyses of Variance (MANOVA) were conducted, in which the I-A profile factors were used as dependent variables and the typological groups as the independent variable. To evaluate differences between the groups, the post-hoc Tukey or Dunnett's C tests were used, respectively, according to the presence or absence of homogeneity of variance between the groups.

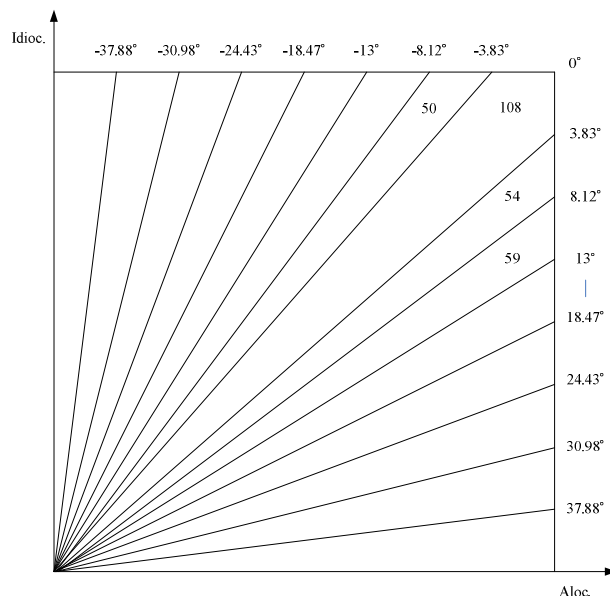


Figure 3. Distribution of the typological groups in the fields of the Interactive Model

To verify the presuppositions of the analysis, exploratory analyses of the data were conducted, during which no missing cases, deviations from normality or univariate outliers were detected in the groups evaluated. However, when the Mahalanobis distance was used to evaluate the presence of multivariate outliers, two cases [$\chi^2(10)=29.588; p=.001$] were detected in the isocentric group which were removed from the sample.

The results of MANOVA for the I-A Profile factors revealed that significant differences

occurred between the groups in relation to the linear combination of dependent variables [$F(15, 720.91)=41.60; p=.001$] and in relation to the factors Self-realization and Competitiveness [$F(3, 265)=105.35; p=.001$], Hedonism [$F(3, 265)=5.13; p=.002$], Emotional Distance from the Team [$F(3, 265)=10.28; p=.001$], Level of Idiocentrism [$F(3, 265)=80.75; p=.001$] and Level of Allocentrism [$F(3, 265)=22.22; p=.001$]. Table 1 presents the means and standard deviations obtained for the groups in relation to the dependent variables evaluated.

Table 1. Means and standard deviations obtained for the typological groups in relation to the I-A profile factors

Factors	Groups			
	ISO	HI	HA1	HA2
Self-Realization and Competitiveness	2.56 (.55)	3.06 (.54)	2.04 (.49)	1.41 (.49)
Hedonism	3.44 (.46)	3.53 (.41)	3.44 (.46)	3.20 (.57)
Emotional distance from the team	1.48 (1.05)	2.04 (1.18)	1.19 (1.08)	0.96 (.80)
Level of Idiocentrism	2.83 (.47)	3.19 (.48)	2.47 (.42)	1.96 (.41)
Level of Allocentrism	2.85 (.43)	2.41 (.45)	3.04 (.49)	3.10 (.56)

The post-hoc tests revealed that all the groups differed in relation to the factor Self-Realization and Competitiveness, with the Heteroidiocentric (HI) individuals presenting the highest means compared to the remaining groups. Observation also showed that as the fields pass from idiocentric heterometry to allocentric heterometry, groups present lower means for this factor, revealing that as the predominance of the

allocentrism construct increases over idiocentrism, the need for self-realization and competitiveness decreases. As a general characteristic, this factor focuses individualistic aspects of the self in the sporting context, in which differentiation and standing out from others is sought, valuing hierarchy, the pursuit of personal success, fame, power, social status and wealth.

For the factor Hedonism, Heteroallocentric 2 (HA2) individuals presented significant differences in relation to the remaining groups, which did not present significant differences between each other. Observation showed that this group presented a lower mean compared to the remaining groups, demonstrating that the pursuit of pleasure, personal gratification and enjoyment of life are less valued by this group. This factor evaluates the need for stimulation, self-determination, creativity, daring, independence, freedom, curiosity and choosing one's own goals. Thus, hedonism diminishes after a certain level of allocentrism is developed. Fields adjacent to the bisector still value hedonism, even though they are within the area of allocentrism. Thus, the greater the predominance of the allocentrism construct, the lower the need to pursue goals, pleasure and personal gratification; consequently, group goals are valued to the detriment of individual goals.

Regarding the factor Emotional Distance from the Team, analysis of the results revealed that Heteroidiocentric individuals differed from the remaining groups, showing higher mean values. Isocentric individuals presented significant differences in relation to Heteroidiocentric and Heteroallocentric 2 individuals, but not in relation to Heteroallocentric 1 individuals. Heteroallocentric 1 and 2 individuals showed differences between each other.

Observation revealed that as the fields pass from idiocentric heterometry to isocentrism to allocentric heterometry, the need for emotional distance from the team diminishes. As its name indicates, this factor evaluates the emotional distance of the athlete in relation to the team and is composed of items that evaluate how the individual interests superimpose emotional questions related to social affiliation, in this case, the team affiliation.

For the second order factor Level of Idiocentrism, analysis of the results demonstrated that all the groups differed from each other, with Heteroidiocentric individuals presenting greater means than the remaining groups. As expected, passing from idiocentrism to allocentrism leads to a reduction in individualistic tendencies of the self.

For the Allocentrism Scale, the factor Level of Allocentrism also presented significant differences between the groups, with heteroidiocentric individuals differing from all the groups and presenting the lowest means. Only between the Isocentric and Heteroallocentric 1 groups there were no significant differences.

Observation showed that the level of allocentrism increases as the fields pass from idiocentric heterometry to allocentric heterometry.

This factor evaluates concerns involving team unity and integrity, in which the self assumes a submissive attitude, valuing hierarchy, tradition (respect and commitment), conformity and safety, restricting actions and impulses that could bother or harm others, obedience, group honor and self-discipline, as well as attitudes in which the self assumes egalitarian attitudes, encompassing aspects related to benevolence, including the preservation or intensification of the well-being of the individuals the group member is in contact with.

The results obtained for this factor confirm that the greater the predominance of the Allocentrism construct, the lower the pursuit of pleasure and personal goals (Hedonism) and the greater the individual gratification as the group goals are satisfied and achieved. These results further corroborate studies by Triandis (1995, 1999, 2002), Kashima and cols. (1995) and Kitayama and cols. (1997).

DISCUSSION

In summary, analysis of the results permits the inference that the pursuit of self-realization, power, fame, personal success, wealth and the need for emotional distance from the group increases as the fields of Idiocentrism become more distant from the bisector. This means that the greater the polarization of the constructs involving the supremacy of Idiocentrism, the greater the need for individual differentiation from others, leading to an individual orientated by success and achievement. Tracing a parallel with the model proposed by Triandis and Gelfand (1998), it can be affirmed that individuals positioned in the Idiocentrism fields furthest from the bisector present profiles similar to vertical individualists.

As the fields get closer to the bisector, the predominance of one construct over the other diminishes; i.e., both constructs exert an effect on perception and, consequently, on individual cognitions, affections, behaviors and attitudes. Individuals positioned in these fields tend to present more egalitarian attitudes; i.e., they pursue their goals while valuing the pursuits and goals of others. Their profiles are similar to the horizontal individualists.

Regarding the fields of Allocentrism, observation showed that this increases as the fields

become more distant from the bisector and that the more peripheral fields are characterized by the inclusion of individuals with a low need for self-realization, fame, personal success, individual gratification and hedonism, while presenting a strong need for social affiliation. It can be affirmed that as the fields become more distant from the bisector, the need to subjugate individual needs in the benefit of the group needs increases, as established for vertical collectivists. This tendency results from the supremacy of the allocentric construct over the idiocentric, which governs individual perceptions in favor of collectivist aspects in general.

As the fields get closer to the bisector, the predominance of one construct over the other diminishes, again favoring more egalitarian perceptions. In this case, the individual values common goals, interdependence and sociability, but will not submit to authority. This is a cooperative individual, similar, therefore, to the profile of horizontal collectivists.

Tracing a parallel with the model proposed by Triandis and cols. (1985), it can be inferred that as the fields of Idiocentrism and Allocentrism become more distant from the bisector, the vertical dominion increases, while a greater proximity with the bisector favors the horizontal dominion. These dominions are no more than reflects that the predominance. Thus, fields that are far from each other value hierarchy, this tendency resulting from the expressive predominance of one of the constructs over the other, while fields in greater proximity value equality, precisely because the constructs present equilibrium or proportionality.

Although the models present convergence regarding the composition of the typological groups within their fields, the interactive model configures a group that presents equilibrium between the constructs, denominated isocentric. This raises questions as to whether isocentric individuals present greater behavioral flexibility due to the presence of both constructs, whether they present greater social adjustment and whether their judgments and attitudes are based on aspects different to those more strongly governed by the constructs of idiocentrism and allocentrism. Furthermore, how the distance and synthesis variables present in the model interfere and complement the study of the psychological profile of individuals positioned in the fields of the interactive model are yet to be answered. These are some considerations for future studies.

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