

Guiding Actions and Expressing Needs: On the Psychological Functions of Values

Guiar Acciones y Expresar Necesidades: Sobre las Funciones Psicológicas de los Valores

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Values are often used to examine cultural variability. Yet, little research has focused on the functions that values fulfill and the implications of these functions for understanding cultural variability. This paper describes a theoretical analysis of the functions of values based on 2 widely accepted pan-cultural functions: values guide actions and express needs. The theoretical model proposes that the first function differentiates values according to the goals pursued (personal, central, or social goals), whereas the second function differentiates values according to the needs expressed (survival or thriving needs). A combination of these 2 functions yields 6 basic values (structural hypothesis) with specific marker values (content hypothesis). Support for the hypotheses was obtained in a large convenience national sample ($N = 5,176$) of Brazilian university students with confirmatory factor analysis and multidimensional scaling. Central values were located between personal and social values, and survival and thriving values separated into 2 regions. Theoretical and cross-cultural implications of the findings, especially the universality of the general structure of motivational aims, are discussed, along with interpretations of existing value scales from a functional perspective.

Keywords: human values, functions, structure, content, Brazil

Los valores se emplean para examinar la variabilidad cultural, pero ha sido escasa la investigación centrada en las funciones de los valores y sus implicaciones para comprender la variabilidad cultural. El artículo analiza teóricamente las funciones de los valores basado en 2 funciones panculturales ampliamente aceptadas: los valores guían acciones y expresan necesidades. El modelo teórico propone que la primera función distingue a los valores según las metas perseguidas (personales, centrales o sociales); la segunda función los diferencia según las necesidades (de supervivencia o crecimiento). La combinación de estas funciones arroja 6 valores básicos (hipótesis estructural) con valores marcadores específicos (hipótesis de contenido). Estas hipótesis fueron apoyadas en una muestra intencionada nacional amplia ($N = 5.176$) de estudiantes universitarios brasileños, por medio de análisis factorial confirmatorio y escalamiento multidimensional. Los valores centrales se situaron entre los valores personales y sociales y los de supervivencia y de crecimiento se separaron en 2 áreas. Se discuten las implicaciones teóricas y transculturales de los resultados, especialmente la universalidad de la estructura general de metas motivacionales, junto con interpretaciones de escalas de valores existentes.

Palabras clave: valores humanos, funciones, estructura, contenido, Brasil

Research investigating the interplay between culture and psychology has grown markedly in the last few decades and individual and cultural values are one of the main psychological constructs used to understand and access cultural variability (Matsumoto & Yoo, 2006). In the present article we report an empirical study testing hypotheses based on a theory of personal values. Although not directly testing cross-cultural predictions in this study, we believe that this theoretical model might prove useful in understanding cultural variability and in the design of future cross-cultural studies. This is particularly so because the theoretical model presented provides an explicit discussion of the two-dimensional structure of the value system that has been shown to be cross-culturally robust.

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Indeed, the extant cross-cultural literature has consistently shown that the general structure of motivational aims, such as values, is subsumed by a two-dimensional structure (Fontaine, Poortinga, Delbeke, & Schwartz, 2008; Grouzet et al., 2005; Ronen, 1994). However, few attempts have been made to explicitly explain the underlying functional characteristics of this structure. Understanding these functional characteristics could help to explain why motivational aims are organized the way they are in the two-dimensional structure across cultures. This paper contributes to the literature by providing additional evidence of a parsimonious and theory-driven model of the functions of values.

The functional theory, which we detail below, has previously been tested with a national Brazilian sample of physicians (Gouveia, Milfont, & Guerra, 2014a) and also with samples from 23 countries using a different measure (Gouveia, Milfont, & Guerra, 2014b). In the present study we tested the theory using a national Brazilian sample of university students. The advantage of testing the theory in another sample lies in comparability with previous studies using different samples and value models and in the additional evidence regarding the functional theory. As Stukas and Cumming (2014) have pointed out, one of the goals of social psychology is to build a quantitative and cumulative discipline. Replicating findings and retesting theories with similar and dissimilar samples contributes to this goal.

We start the article by outlining two widely accepted functions of value that were used in developing the functional theory of human values, which has shown potential for improving current research on values and their correlates (Fischer, Milfont, & Gouveia, 2011; Gouveia et al., 2014a; Gouveia, Milfont, Fischer, & Coelho, 2009; Guerra, Gouveia, Sousa, Lima, & Freires, 2012). Afterwards, we test two specific hypotheses derived from the theory. As we note below, other theoretical models of values exist, but to the best of our knowledge little or no effort has been made to integrate them (but see Dobewall & Rudnev, 2014). We offer an opportunity to think about different theories from a functional perspective, identifying two main functions that values fulfill and their corresponding basic values. This is a theory-driven approach that provides assistance in the examination of cultural variation from economic and social indicators (Fischer et al., 2011) and the across-culture variation of value priorities throughout the life span (Gouveia, Vione, Milfont, & Fischer, 2015). In addition, the theory maps important dimensions of values neglected in other models.

The Functional Approach to Values

Functional models have been used to understand and explain a variety of psychological constructs, including functional approaches in attitudes research (Maio & Olson, 2000a; Pratkanis, Breckler, & Greenwald, 1989). Yet, the functions of values have received less attention in the literature (Allen, Ng, & Wilson, 2002; Gouveia, Fonsêca, Milfont, & Fischer, 2011; Rokeach, 1973). Despite this lack of emphasis, it is possible to identify two primary functions of values in the psychological literature: (a) to guide human actions (Rokeach, 1973; Schwartz, 1992) and (b) to express human needs (Inglehart, 1977; Maslow, 1954). The recognition of these primary functions has led to the development of the functional theory of human values (Gouveia, 1998, 2003, 2013; Gouveia et al., 2014a), which posits a set of principles concerning the aspects that values fulfill.

Values can be defined as “categories of orientation that are desirable, based on human needs and the preconditions to satisfy them, that are adopted by social actors, and that can vary in their magnitude and their constituting elements” (Gouveia, 2003, p. 433). Consequently, we regard human values as an orientation criterion that guides human actions and gives expression to human needs (Inglehart, 1977; Kluckhohn, 1951; Rokeach, 1973; Ronen, 1994), while the functions of values are the psychological aspects that they fulfill: guiding behaviors and cognitively representing human needs (Gouveia, 2013).

According to this functional theory, each of the two functions of values forms distinct dimensions. The first functional dimension outlines *circles of goals*, based on the type of orientation that values serve when guiding human behaviors (personal, central, or social goals). The second functional dimension outlines *levels of needs*, based on the type of motivator that values serve when cognitively representing human needs (survival or thriving needs). To some extent, this theoretical model breaks a new conceptual ground by reconciling two separate value-traditions that are better represented by the models proposed by Schwartz (1992, 2005) and Inglehart (1977, 1989).

Values Guide Human Actions: From Personal to Social Goals

Rokeach (1973) identifies two types of terminal values: *personal* values (e.g., inner harmony, an exciting life) and *social* values (e.g., true friendship, a world of peace). While individuals guided by personal values are self-centered or intrapersonal in focus, individuals guided by social values are society-centered or interpersonal in focus. Empirical studies have also shown a set of values that are neither completely or exclusively personal nor social, such as personal stability, health, knowledge, and maturity (Gouveia, 2003; Gouveia, Andrade, Milfont, Queiroga, & Santos, 2003; Mueller & Wornhoff, 1990). These values are sometimes referred to as mixed motivational types (Schwartz, 1992); however, no explanation has been offered of why these values are located almost perfectly between personal and social values.

The functional theory posits that this set of values is located between personal and social values for two main reasons. First, these values are congruent or compatible with both personal and social goals (i.e., these values can be both society-centered and self-centered). Second, and more importantly, these values are the point of reference for the other values, in the sense that they correspond to basic needs (e.g., survival) and more general needs (e.g., self-actualization) of human beings. Since these values are congruent with both personal and social goals, it is possible for someone who prioritizes social goals to strongly endorse personal stability or for someone who prioritizes personal goals to strongly endorse equality. For this reason, these values are referred to as *central* values. Therefore, values orient and guide human actions toward personal, central, or social goals.

It is worth noting that central values as defined here refer to a specific kind of values. The centrality of these values is not situational, that is, it is not derived from the judgment that people make about their importance (Verplaken & Holland 2002). The centrality of central values is an inherent quality of this set of values. Central values constitute the main axis of motivational goals, reflecting materialist/post-materialist values (Inglehart, 1977), which brings us to the second motivational dimension.

Values Give Expression to Human Needs: From Survival to Thriving Needs

Although there is not a perfect correspondence between needs and values, scholars have argued that it is possible to identify values according to their expression of human needs (Inglehart, 1977; Maslow, 1954). Needs expressed by values include materialistic or basic needs that must be satisfied to ensure the survival of the individual, the immediate social group, and the species (basic biological and social needs such as food and control). However, values also express less materialistic needs that may increase when basic needs have already been addressed (Inglehart, 1977; Maslow, 1954; Welzel, Inglehart, & Kligemann, 2003), including needs for information and intellectual and emotional stimulation, as well as the aspiration to derive positive self-esteem (Baumeister, 2005; Pinker, 1997). Based on the needs that they express, all values can be classified as *materialistic* or *pragmatic* versus *humanitarian* or *idealistic* (Braithwaite, Makkai, & Pittelkow, 1996; Inglehart, 1977; Marks, 1997; Ronen, 1994). Materialistic/pragmatic values express basic needs while humanitarian/idealistic values express thriving needs.

Values expressing basic/materialistic needs are related to practical ideas and orientations toward specific goals and normative rules. People guided by such values tend to think in more biological terms of survival, giving importance to their own existence and the conditions under which it can be secured, which is related to deficiency needs postulated by Maslow (1954). In contrast, values expressing thriving/idealistic needs reveal a universal orientation, based on more abstract principles and ideas. Assigning importance to such values is coherent with an innovative spirit and open-mindedness, and suggests less dependence on material goods, which is related to growth needs as postulated by Maslow (1954). People are regarded as equal to each other and interpersonal relationships are appreciated as a goal in themselves.

Content of the Functions and Basic Values

The two functional dimensions of values form two principal axes. The horizontal axis corresponds to goals towards which values might guide actions and the vertical axis corresponds to needs that values might express. The functional dimensions can thus be mapped on a three-by-two framework, with three pursued goals (personal, central, and social goals) and two expressed needs (thriving and survival or basic needs). Crossing goals and needs yields six specific basic values. We present a schematic description of this interplay in Figure 1. Each of the three types of pursued goals is represented by two basic values: personal (promotion

and excitement values), central (existence and suprapersonal values), and social (normative and interactive values). Each of the two types of expressed needs is represented by three basic values: survival (existence, promotion, and normative values) and thriving (suprapersonal, excitement, and interactive values). The following is a more detailed description of the six basic values.

		Values as guides of actions		
		Personal goals (the individual by itself)	Central goals (the general purpose of life)	Social goals (the individual in the community)
Values as expressions of needs	Thriving needs (life as source of opportunities) ¹	<i>Excitement</i> Emotion Pleasure Sexuality	<i>Suprapersonal</i> Beauty Knowledge Maturity	<i>Interactive</i> Affection Belonging Support
	Survival needs (life as source of threats) ²	<i>Promotion</i> Power Prestige Success	<i>Existence</i> Health Stability Survival	<i>Normative</i> Obedience Religiosity Tradition

Figure 1. Facets, dimensions and basic values. 1: Under pressing conditions that impose existential threats; 2: Under permissive conditions that provide existential security.

Existence values. Existence values represent the most basic psychological needs (e.g., eating, drinking, sleeping) and the need for security (Maslow, 1954; Ronen, 1994). The main purpose of existence values is to guarantee basic conditions for individual biological and psychological survival, an objective which is compatible with both personal and social goals. The theory posits that existence values are the point of reference for promotion and normative values.

Promotion values. Promotion values express survival needs and focus on personal goals. Self-esteem needs are represented by these values (Maslow, 1954; Ronen, 1994). Promotion values stem from a personal orientation, focusing on material achievements, and are a vital requirement for successful social interactions and for institutional functioning (Schwartz, 1992, 2005). Individuals oriented by promotion values give importance to hierarchy when it is a manifestation of personal competence. These individuals appreciate an organized and structured society, look for their own personal benefit, and are practical in their decisions and behaviors.

Normative values. Similar to existence values, normative values also express survival needs, but focusing on social goals. These values are the cognitive representation of particular needs, such as control, and also help in securing pre-conditions for the satisfaction of basic needs (Korman, 1974; Maslow, 1954; institutional and social demands, according to Schwartz, 1992). Normative values have a social orientation and a focus on social rules, based on materialistic guiding principles. Normative values thus reflect the importance of preserving one's culture and conventional norms. Endorsing these values also implies a vertical orientation (Gouveia, Albuquerque, Clemente, & Espinosa, 2002), which stresses the importance of obedience to authority.

Suprapersonal values. Suprapersonal values express thriving needs through central goals. That is, they represent higher-order needs, such as cognition and self-actualization (Maslow, 1954; Ronen, 1994). Suprapersonal values help to organize and categorize the world in a meaningful way, providing clarity and stability in one's life. Biologically, humans have a need for information (curiosity) that ultimately leads to a better understanding and control of the physical and social world (Baumeister, 2005). Such values can be conceived as idealistic, pointing out the importance of abstract ideas and less absolute and material things

(Inglehart, 1977). As such, suprapersonal values are the most important way of expressing thriving needs and are a point of reference for excitement and interactive values.

Excitement values. Excitement values represent thriving needs with a focus on personal goals. The physiological need for gratification and variety, or the assumption of the pleasure principle (i.e., hedonism; Maslow, 1954; Ronen, 1994), are represented by excitement values. These values express a more personal orientation, contributing to the promotion of change and innovation in the structure of social organizations. Individuals oriented by such values tend not to be geared towards or fixed on material goals in the long run.

Interactive values. Interactive values focus on social goals, representing thriving needs, such as belonging, love, and affiliation (Korman, 1974; Maslow, 1954). Interactive values are essential in regulating, establishing, and maintaining one's interpersonal relationships, stressing the common circumstances and affective experience among individuals. Social contact is a goal in itself, stressing more affective and abstract attributes.

We selected three exemplary marker values for each of these six basic values. In Table 1 we present the marker values. We selected all specific markers to theoretically map the six basic values based on a list of values used in previous measures (e.g., Braithwaite & Scott, 1991). In line with the proposed theoretical model depicted in Figure 1, we predicted that the 18 marker values would fall into their corresponding theoretical location (Hypothesis 1).

Structure of the Functions and Basic Values

As we discussed above, there are values that are neither completely or exclusively social nor personal. Although some scholars refer to these values as representing mixed interests (e.g., Schwartz's universalism and security value types) and in opposition to other values (e.g., Schwartz's stimulation value type), we propose that these are central values that are not restricted to the dichotomy of self-centered and society-centered interests. Central values are thus different from Schwartz's (1992) mixed value types. For instance, security is considered a mixed motivational type in Schwartz's model because it is composed by values that serve personal (e.g., clean, healthy) and social (e.g., social order, family security) interests. The same is true for universalism, which is formed by values that serve personal (e.g., wisdom, tolerance) and social (e.g., social justice, a world of peace) interests (Schwartz et al., 2012). In contrast, central values are not defined according to a particular type of interest, but according to their congruency with both personal and social goals.

As we illustrated in Figure 1, existence and suprapersonal values capture the values with central goals. Existence values represent the more basic human needs and are a point of reference for promotion and normative values because these values also share materialistic and pragmatic motivators, such as esteem and social stability, which are crucial to guaranteeing individual survival and group functioning. On the other hand, suprapersonal values represent the more general human needs and are the point of reference for excitement and interactive values because these values also share general principles and abstract orientations, such as emotion and belonging, which are essential for ensuring interactional requirements and change in societies (Gouveia et al., 2010, 2011).

Based on these assertions, we predicted that values with central goals would be located between values with personal and social goals (Hypothesis 2a), and that values expressing survival and thriving needs would occupy two separate regions in the proposed two-dimensional space (Hypothesis 2b). In this model, the structure of values refers to the interplay between the two functional dimensions, as depicted in Figure 1.

In sum, the functional theory is theoretically driven, intending to integrate previous models and to provide a more parsimonious solution when studying values. Robust evidence of its utility has already been presented in a sample of over 13,000 Brazilian physicians (Gouveia et al., 2014a), Colombian general population (Ardila, Gouveia, & Medeiros, 2012), students from Spain (Gouveia et al., 2010), and a cross-cultural sample from Europe using another measure (Gouveia et al., 2014b). The present study provides another examination of the theory by testing the proposed hypotheses with a national sample of university students from Brazil.

Table 1
Basic Values, Their Interplay With Needs and Goals, and Selected Marker Values

Basic value	Interplay		Marker value and its description
Excitement	Thriving needs and personal goals	Emotion Pleasure Sexuality	To enjoy challenges or unknown situations; to look for adventure. To live for the moment; to satisfy all your desires. To have sexual relationships; to obtain sexual pleasure.
Promotion	Survival needs and personal goals	Power Prestige Success	To have the power to influence others and to control decisions; to be the boss of a team. To know that a lot of people know and admire you; when you are older, to be honored for your contributions. To reach your goals; to be efficient in everything you do.
Existence	Survival needs and central goals	Health Personal stability Survival	To look after your health at all times, not just when sick; not to be sick. To have the certainty that tomorrow you will have all that you have today; to have an organized and planned life. To have water, food, and shelter every day in your life; to live in a place with enough food.
Suprapersonal	Thriving needs and central goals	Beauty Knowledge Maturity	To be able to appreciate the best in art, music, and literature; to go to museums or exhibitions where you can see beautiful things. To look for up-to-date news on not very well-known matters; to try to discover new things about the world. To feel that your purpose in life has been fulfilled; to develop all your capacities.
Interactive	Thriving needs and social goals	Affectivity Belonging Social support	To have a deep and enduring affectionate relationship; to have somebody to share successes and failures. To have good neighborly relationships; to form part of a group, e.g., social, religious, sporting. To obtain help when you need it; to feel that you are not alone in the world.
Normative	Survival motivator and social goals	Obedience Religiosity Tradition	To fulfill your daily duties and obligations; to respect your parents, superiors, or elders. To believe in God as the savior of humanity; to complete the will of God. To follow the social norms of your country; to respect the traditions of your society.

Method

Participants

Colleagues from Brazilian universities in all states were invited to collaborate in a cross-national project to study values and other personality variables. The colleagues received a minimum of 250 copies of the questionnaire to administer it to their students. The final convenience sample consisted of 5,176 university students (1,474 males, 3,702 females) from all 27 Brazilian states. Their mean age was 23.8 ($SD = 6.77$), ranging from 17 to 67; 85.8% were up to 30 years old. Students were enrolled in either psychology or education courses.

Instrument and Procedure

The *Basic Value Survey* (BVS) comprises the 18 marker values presented in Table 1. Participants were asked to rate each item-value on a 7-point scale, ranging from 1 (*completely unimportant*) to 7 (*of the utmost importance*), considering how important each value was for them as a guiding principle in their life. The study followed the ethical guidelines of the National Health Council in Brazil (Resolution 466/12). Students completed the questionnaire in the 2002-2004 period on a voluntary and anonymous basis during regular classroom sessions. The average completion time for the questionnaires was 15 minutes.

Data Analyses

Hypothesis 1 predicted that the 18 marker values would fall into their corresponding theoretical basic value (see Figure 1). To test this content hypothesis, we performed a confirmatory factor analysis using the variance-covariance matrix among the 18 values as input and maximum likelihood estimation procedures in LISREL 8.71. We considered several fit indexes of model fit (Byrne, 2001): the goodness-of-fit index (GFI), the comparative fit index (CFI), the root-mean-square error of approximation (RMSEA) and its corresponding 90% confidence interval (CI), and the standardized root mean square residual (SRMR). Models with GFI and CFI values of 0.90 or higher indicate an acceptable fit, while RMSEA and SRMR values close to 0.06 and 0.08 or lower, respectively, indicate an acceptable fit (Browne & Cudeck, 1993; Hu & Bentler, 1999).

To evaluate relative fit, we examined alternative plausible models in comparison to the predicted six-factor model. First, we proposed that values with a focus on central goals form the base or core of the structure of human values. It would thus be possible for existence and suprapersonal values to form a joint cluster of central values, leading to only five basic values. Second, we proposed that values with a focus on personal, central, and social goals can be distinguished and form the major differentiating feature of human values. We then merged personal, central, and social values and propose an alternative three-factor structure to be tested (cf. Schwartz, 1992). Alternatively, the level of needs might be a more parsimonious explanation of our proposed value structure, hence a two-factor solution (values expressing survival versus thriving needs) could be tested (Inglehart, 1989). Finally, because values are all interrelated, a single value factor may be possible. We used the χ^2 difference test, the expected cross-validation index, and the consistent Akaike information criterion to compare these alternative models with the original six-factor model. Significant results for the χ^2 difference test and lower ECVI and CAIC values reflect better fit.

Hypothesis 2a predicted that values focusing on central goals would be located between those focusing on personal and social goals, and Hypothesis 2b predicted that values expressing survival and thriving needs would be projected into two separate regions in the two-dimensional space. We tested these structural hypotheses using confirmatory (PROXSCAL algorithm) multidimensional scaling (MDS). We fitted the confirmatory MDS using SPSS 18 and we z -transformed the variables before creating a distance matrix between them. We performed this analysis by specifying a theoretical structure in line with Figure 1 and then comparing the fit of the observed structure with the predicted structure. We specified the following parameters for the circle of goals: excitement [1.0], promotion [1.0], existence [0.0], suprapersonal [0.0], interactive [-1.0], and normative [-1.0]. For the level of needs, we specified the following parameters: excitement [0.5], promotion [-0.5], existence [-1.0], suprapersonal [1.0], interactive [0.5], and normative [-0.5]. We used Tucker's Phi as a measure of model fit, with values close to 0.90 or higher indicating acceptable fit (van de Vijver & Leung, 1997).

Results

Descriptive Statistics and Reliability

We report descriptive statistics and reliability (i.e., internal consistency and homogeneity) of the basic values in the first three columns of Table 2. Cronbach's alpha coefficients were low, ranging from 0.34 (promotion values) to 0.56 (normative values), $\alpha_{\text{mean}} = 0.43$, but these are extremely sensitive to the number of items and the scales were comprised of only three value-items. Schwartz (2005) has also found low alpha coefficients (e.g., 0.39 to 0.64 for tradition), even considering more value-items (see also Schwartz & Rubel, 2005). However, the mean corrected item-total correlations of the scales ranged from 0.20 to 0.39 (average $r_m = 0.28$), indicating homogeneity. The internal consistency and homogeneity of the scales measuring the six basic values were deemed acceptable for research purposes.

Table 2
Means, Standard Deviations, Reliabilities, and Intercorrelations of the Basic Values

	<i>M</i>	<i>SD</i>	α (r_m)	Correlation Matrix				
				1	2	3	4	5
1. Excitement	5.02	1.14	0.42 (0.26)					
2. Promotion	4.79	1.14	0.34 (0.20)	0.28				
3. Existence	6.26	0.78	0.48 (0.30)	0.21	0.29			
4. Suprapersonal	5.67	0.92	0.39 (0.25)	0.13	0.18	0.36		
5. Interactive	5.88	0.88	0.41 (0.26)	0.10	0.16	0.36	0.29	
6. Normative	5.21	1.26	0.56 (0.39)	-0.05	0.15	0.39	0.25	0.39

Note. $N = 5,176$; α = Cronbach's alpha coefficient; r_m = mean corrected item-total correlations. All correlations are significant at the 0.05 level.

Content Hypothesis

We report the fit statistics for each of the competing models in Table 3. Both the five-factor and the six-factor models presented acceptable fit. This finding indicates that existence and suprapersonal values could jointly form a single cluster of values with a focus on central goals, which supports the proposed argument that these central values form the backbone of the structure of human values. However, the distinction between existence and suprapersonal values (i.e., the six-factor model) also has theoretical and empirical support. For example, the proposed six-factor model showed lower ECVI and CAIC indices and the χ^2 difference test indicates that this model was statistically better fitting than the five-factor model and that all other models are comparatively worse. The best fit was found for the proposed six-factor model. All loadings for this model were statistically significant ($p < 0.05$) and the average completely standardized loading was 0.46, with the lowest loading being 0.25 for power. Measurement errors ranged from 0.39 (pleasure) to 0.94 (power). These results confirm Hypothesis 1. People appear to distinguish six basic values as measured by the BVS.

Structure Hypotheses

In Figure 2 we show the results of the confirmatory MDS. Forcing the observed correlation between the marker values to fit the proposed structure, Tucker's Phi was 0.98, indicating a very good fit and similar to the one observed with a national physician sample (Gouveia et al., 2014a). The results of the confirmatory MDS thus support both Hypothesis 2a and 2b: central values were clearly located between personal and social values and survival and thriving values were separated into two regions.

Table 3
Fit Indices for Alternative Models

Model	$\Delta\chi^2 (df)$	χ^2	df	GFI	CFI	RSMEA [90% CI]	SRMR	ECVI	CAIC
One-factor	-	4484.53	135	0.91	0.81	0.079 [0.077, 0.081]	0.062	0.88	4828.39
Two-factors	43.50 (1)*	4441.03	134	0.91	0.82	0.079 [0.077; 0.081]	0.044	0.42	2308.44
Three-factors	1,830.26 (2)*	2610.77	132	0.95	0.88	0.060 [0.058; 0.062]	0.055	0.52	2983.29
Five-factors	541.86 (7)*	2068.91	125	0.96	0.90	0.055 [0.053; 0.057]	0.046	0.42	2508.30
Six-factors	95.96 (5)*	1972.95	120	0.96	0.91	0.055 [0.053, 0.057]	0.045	0.40	2460.07

Note. $N = 5,176$. Two-factors model (values expressing survival versus thriving needs). Three-factors model (values focusing on social versus central versus personal goals). Five-factors model (central values combined). χ^2 = chi-square, df = degrees of freedom, GFI = goodness-of-fit index, CFI = comparative fit index, RMSEA = root-mean-square error of approximation, 90% CI = 90% confidence interval, SRMR = standardized root mean square residual, ECVI = expected cross-validation index, CAIC = consistent Akaike information criterion.

* $p < 0.001$

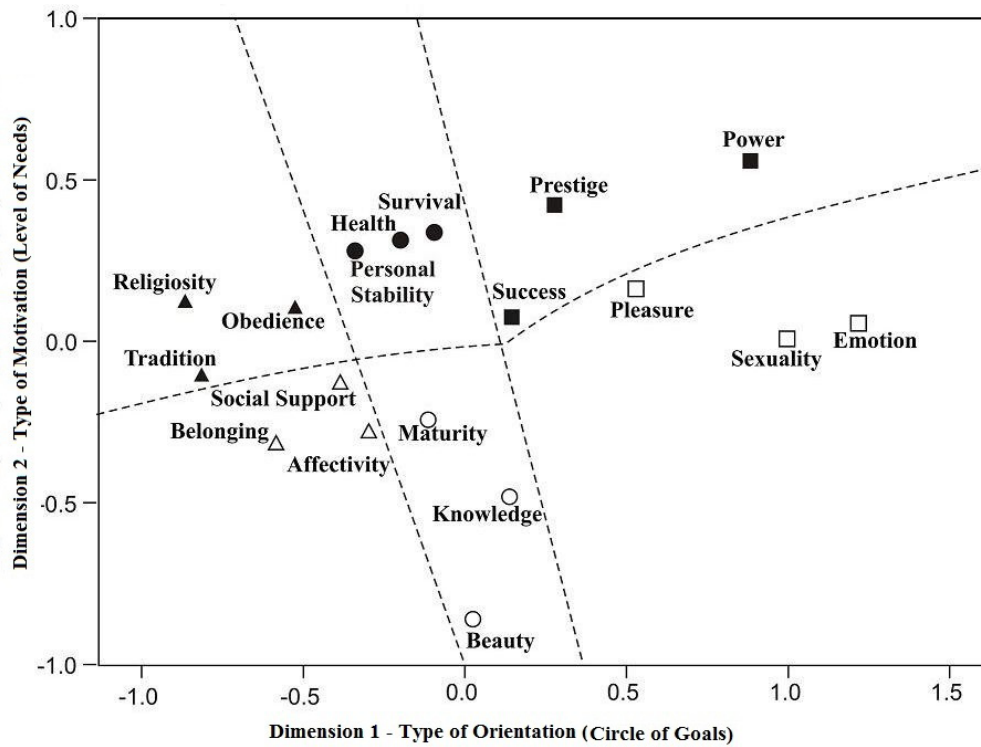


Figure 2. Spatial representation of the marker values from confirmatory MDS. Triangles refer to social values, circles to central values, and squares to personal values. Black symbols refer to survival values and white symbols refer to thriving values.

Discussion

Values are often used in research examining dimensions of cultural variability. The present study did not explore cultural variability, but instead tested a value model that might be useful in future cross-cultural research. Even though insufficient research has been conducted on the functions that values fulfill, two primary functions of values can be identified in the psychological literature: values guide human actions and express human needs. Based in these features of values, Gouveia (1998, 2003, 2013) developed a functional theory of human values. The theory provides a parsimonious and theory-driven approach for understanding the content and structure of the values system by focusing on the interplay between these two functions that values serve and the resulting six basic values. This article presents further empirical support for the theoretical model by showing that the hypotheses about content and structure were confirmed in a national Brazilian sample of university students. Below, we discuss the implications of this theoretical model, its relationship with other value models, and some implications for cross-cultural research.

Basic Values and Their Marker Values

The list of all human values can be unlimited, depending on their nature and source (Braithwaite & Scott, 1991). Rokeach (1973) argues, for instance, that the number of instrumental values is infinite. Therefore, it seems more practical and empirically sound to identify the main dimensions of values and then select specific marker values, rather than to generate dimensions from a virtually unlimited number of values. Gouveia (1998, 2003) identified six basic values derived from the interplay of the two widely accepted value functions, and then selected from the literature three marker values for each.

Our analysis has shown that the selected marker values included in the BVS clustered in their theoretical location and seem, therefore, an adequate and parsimonious set of values to measure the proposed framework. In fact, this set of values has displayed reliable psychometric results in several other studies (Gouveia, 2003; Gouveia et al., 2002; Gouveia et al., 2014a; Santos, 2007). However, other researchers may wish to use different marker values to represent the six basic values for individuals with different cultural and socio-economic backgrounds. The functional theory is not dependent on a particular measure. Indeed, Gouveia et al. (2014b) confirmed both the content and structure hypotheses using a set of marker values from Schwartz's PVQ-21.

Mapping the Structure of the Functions of Values

We mapped the functions of values onto two axial facets, with the horizontal axis corresponding to the goals which are the focus of values and the vertical axis corresponding to the needs that values express. The type of goals reflected by values seems the most important functional dimension because people tend to emphasize either the group or themselves as the principal unity of survival (Gouveia et al., 2003; Mueller & Wornhoff, 1990; Rokeach, 1973). Therefore, individuals tend to be guided by values with a focus on social and/or personal goals. There is also a third set of values (central values) that are neither completely or exclusively social nor personal in focus. In line with theoretical predictions, central values were located between personal and social values, and personal and social values were located at opposite ends of a continuum.

The distinction between personal and social values corroborates the theorizing put forth by Rokeach (1973; see also Mueller & Wornhoff, 1990; Schwartz, 1992). The second functional dimension of values also represents an axial facet, with the marker values being distributed into two different areas of survival and thriving values. This is a well-known dimension of values, as has been proposed by Inglehart (1977), and is related to the distinction between deficiency and growth needs proposed by Maslow (1954). Our findings in a national Brazilian student sample support this configuration.

In developing a parsimonious theoretical model, we sacrifice a more detailed approach to needs by focusing only on two types (basic/deficiency and thriving/growth needs) which we believe express the basic relations among values. It is worth noting, however, that our model does not focus on a strict differentiation between organic/biological and non-organic/psychological needs. Instead, we consider basic and thriving needs in terms of their ultimate purpose in life according to the values that represent them. For example, promotion values express basic needs because these values tend to focus on immediate and concrete goals, considering life as a source of threats and the obstacles to overcome to reach specific, concrete, and stable life conditions. In contrast, excitement values express thriving needs because these values are not restricted to practical or concrete life goals in the long term, but rather consider life as a source of growth opportunities. While

individuals who prioritize promotion values (expressing basic/materialistic needs) tend to look for existential security, trying to live in hierarchical, stable, and traditional contexts, individuals who prioritize excitement values (expressing thriving/idealistic needs) tend to be more open to change, seeking opportunities to new and different experiences and social contacts (Gouveia, 2013; Guerra et al., 2012).

Theoretical Implications

One theoretical implication of this functional theory is that it supports the motivational approach to values. That is, independently of the typology used, the structure of values is driven by motivational bases. As a result, attempts to understand the structure of motivational aims will yield similar solutions. Grouzet et al. (2005) found, for example, that the structure of their goal contents was very similar to Schwartz's (1992) value model.

Another theoretical implication derived from this framework for the functions of values is its link to the functions of attitudes. We believe that the link between the value-attitude functions is theoretically important because it strengthens the association between these two constructs and hence the prediction of behaviors. Maio and Olson (1995) argue, for instance, that "from the attitude functions perspective, such weak relations [between values and attitudes] would be expected if the attitudes being studied actually did not serve to express values" (p. 268). Therefore, this framework for the functions of values makes it possible to easily identify the attitudes that may express specific values. This can strengthen the value-attitude link and, as a consequence, the value-attitude-behavior link.

As people's attitudes tend to express their values, it seems logical to consider that values expressing survival needs are conveyed by utilitarian/instrumental attitudes and that values expressing thriving needs are conveyed by symbolic attitudes (Herek, 1987; Prentice, 1987). In line with these predictions, Maio and Olson (2000a) related Schwartz's typology with both value-expressive (similar to symbolic attitudes; Ennis & Zanna, 2000) and utilitarian attitudes, and found that self-transcendence and self-enhancement values were related, respectively, with value-expressive and utilitarian attitudes. Maio and Olson (2000b) found that value-attitude relations can occur for both symbolic and utilitarian attitude functions and not only for symbolic, value-expressive attitude functions. This supports the notion that survival and thriving values are expressed through utilitarian/instrumental and symbolic attitudes, respectively (Maio & Olson, 1995).

Another theoretical implication refers to the associations between the functional theory and other models. There are similarities between the current model and Schwartz's model. First, both theories make it possible to cover the main social, interactional, and biological human needs (Maslow, 1954; Ronen, 1994; Schwartz, 1992). Moreover, the proposed functional framework adopts the recommendation by Schwartz and Bilsky (1987) refining security needs, considering their social and individual aspects (see also Schwartz & Boehnke, 2004). Indeed, the functional theory includes a specific cluster of existence values that represents the more basic aspects of biological and security needs (Inglehart, 1977), which have only recently been incorporated in Schwartz's model (Schwartz et al., 2012). There also some specific similarities between the six values and Schwartz's 10 motivational value types. For example, interactive and excitement values are closely related to the benevolence and stimulation/hedonism motivational types, respectively. The universalism motivational type is similar to suprapersonal values, but universalism is a broader dimension (Schwartz & Boehnke, 2004; Spini, 2003), including not only values but also attitudinal components (e.g., protecting the environment). In a specific attempt to see these similarities, Gouveia (2003) performed a MDS considering Schwartz's 10 motivational types together with the six basic values we presented here. The motivational types were easily identified according to the two functional dimensions of values, with 100% correspondence for the values in the functional dimension of the circle of goals and 80% for the values in the functional dimension of the level of needs.

There are also some dissimilarities between the two theories (see also Gouveia et al., 2014b). Promotion and normative values, for instance, are more inclusive than Schwartz's related motivational value types. Promotion values include two contiguous motivational value types with individual interests (achievement and power), whereas normative values represent two value types with collective interests (conformity and tradition). Yet, Schwartz's self-direction is not clearly related to any of our six values. Although self-direction is discussed in the literature on values (Kohn, 1977), an inspection of the values included in this value type proposed by Schwartz indicates that some of them pertain to personality traits, such as curiosity and independence, rather than values proper. In line with this claim, research has indicated that self-direction was the value type with the highest correlation (0.48) with the big five personality factors (Roccas, Savig, Schwartz, & Knafo, 2002).

The functional theory also shows similarities with Inglehart's (1977, 1989) theory. Specifically, the functional dimension of the level of needs seems to represent his materialism-postmaterialism dimension. Values expressing survival needs (existence, normative, and promotion) capture Inglehart's materialism (e.g., fighting rising prices; maintaining order in the nation), while values expressing thriving needs (suprapersonal, interactive, and excitement) capture Inglehart's postmaterialism (e.g., giving people more voice in important political decisions; protecting freedom of speech). However, although both these frameworks are based on motivational aims, they assume different levels of analysis and dimensional conceptions. The current approach considers values as orienting individuals and emphasizes the multi-componential nature of survival-thriving values. Contrarily, Inglehart's (1977, 1989) materialism-postmaterialism framework was initially regarded as a dimension orienting cultures, representing extreme poles of a single dimension composed by specific values. Perhaps this suggests an important issue in values research and cross-cultural work: are the value structures different at the individual and cultural level of analysis as suggested by some scholars (e.g., Hofstede, de Hilal, Malvezzi, Tanure, & Vinken, 2010; Schwartz, 1999) or is the value system structurally equivalent across levels? A recent study provides compelling evidence for the remarkable similarity of value structures across the two levels (Dobewall & Rudnev, 2014).

Cross-Cultural Implications

There are also other theoretical implications related to cross-cultural research. The functional theory assumes that the three-by-two interplay between the two functional dimensions displayed in Figure 1 is invariant across cultures, and initial empirical evidence supports this view (see Gouveia et al., 2014b). Other cross-cultural research has also shown that the general structure of motivational aims, including values, is subsumed by a similar two-dimensional structure (Fontaine et al., 2008; Grouzet et al., 2005). Following a hierarchical taxonomy of psychological universals that can be observed across cultures (Norenzayan & Heine, 2005), the two-dimensional value structure can be regarded as a *functional universal*, given that it arguably describes the same phenomenon and the same functional expression of the value system across cultural groups.

As noted, this functional-universal account of the two-dimensional value structure has received empirical cross-cultural support (Fontaine et al., 2008; Gouveia et al., 2014b; Schwartz et al., 2012). However, it is worth pointing out that this argument refers only to the universality of the two-dimensional value structure and not to the universality of the endorsement of particular values across individuals or cultures. In fact, this functional-universal account admits socio-cultural variations in the value structure resulting from differential accessibilities of the functional dimensions. Indeed, our previous work has shown that social contexts influence the value structure (Fischer et al., 2011) and also that age-graded social roles (e.g., marriage, parenthood, entering the work force) influence the prioritization of certain values (Gouveia et al., 2015). For example, normative values are more strongly endorsed by older individuals, while excitement values are more strongly endorsed by younger individuals, which reflects their particular life stage. The novel contribution of the functional theory is its parsimonious and theory-driven approach to explaining this pan-cultural structure and possible variations.

Final Remarks and Future Research

The functional theory is an attempt to specifically focus on the functions that values serve. This theoretical model seems more parsimonious than other current models and highlights the motivational bases of values. This theory is also compatible with other typologies of motivational aims (e.g., Grouzet et al., 2005). Hence, it is an important additional theoretical tool for understanding the structure of motivational aims. Compared to other studies, the sample that we examined in this study was less inclusive, considering participants from only one national culture. However, the sample was quite diverse and extensive, coming from all states of the fifth-largest country in the world. Furthermore, although Schwartz's (1992, 2005) theory has received empirical support in more than 60 different cultures, the samples were mainly from Western countries rather than from the Far East or South American countries (Hitlin & Piliavin, 2004). Moreover, his Brazilian samples were restricted to only one city (Brasilia), which does not capture the heterogeneity in values of the Brazilian population (Gouveia et al., 2002; Hofstede et al., 2010). Therefore, the size and diversity of the current sample, which includes a cultural context that is rarely considered in psychological research, is an important asset of our study.

Future research could include other cultures to further support the appropriateness of this functional integrative theoretical framework of values. Some recent research has already provided initial evidence for this approach. A meta-analytical investigation of the structure of the Rokeach Value Survey clearly replicated the six values across 344 independent samples from 32 countries and cultural groups (Vauclair, Hanke, Fischer, & Fontaine, 2011). It would also be interesting to select marker values from the Schwartz Values Survey or other measures to access each of the six values, and then test the hypotheses proposed by our model (see Gouveia et al., 2014b). We think the functional theory of values might be an important and valuable step to re-conceptualize some aspects of current value models, with the potential to significantly improve and simplify them by avoiding the complex structure derived from the use of multiple motivational types.

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