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Life Values Among Lebanese and Portuguese College Students: A Cross-Cultural Comparison

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ABSTRACT

This study aims to test the applicability of the functional theory of life values and score differences among a group of students from Lebanon and Portugal. Participants include 565 college students—278 Lebanese and 287 Portuguese. A demographic questionnaire and an adapted version of the Basic Values Survey were completed. Confirmatory/multigroup factor analysis, a generalized Procrustes analysis, and a *t* test were used. Results indicate that content and structure hypotheses were equivalent among the two groups. There were significant differences between the Lebanese and Portuguese students in normative and promotion values in favor of the first group, and in interactive, suprapersonal, and excitement values in favor of the second. This study has implications for institutional academic and social practices with international college students.

Keywords: assessment, college students, confirmatory factor analysis, construct validity, functional theory, life values

INTRODUCTION

Life values have a central role in the construction of social action, constitute a key element of each individual's cognitive system, and determine attitudes, opinions, and behaviors (Bardi & Goodwin, 2011; Rokeach, 1973). To measure these values, Gouveia (1998, 2003, 2013) and Gouveia et al. (2015) integrated previous theoretical contributions on life values by Rokeach (1973), Inglehart (1977) and Schwartz (1992), and formulated a new theory, the functional theory of life values (FTLV).

The FTLV focuses on the interplay between two widely accepted value functions in human life: values as guiding actions (Rokeach, 1973; Schwartz, 1992) and values as cognitive expressions of needs (Inglehart, 1977; Maslow, 1954), which offers an integrative approach to the study of values (Hanel, Litzellachner, & Maio, 2018). Current research on the FTLV examines the invariance of values structure both within (Gouveia et al., 2015) and across cultures (Medeiros, 2011).

Although values theories are often considered universal (Schwartz, 1992) or functional (Gouveia, 1998), they do not exclude the need of locally important values in specific cultures. In this study, we attempt to contribute to this line of research. Firstly, the plausibility of the FTLV is examined in two different sociocultural groups: Lebanese and Portuguese college students. Although FTLV (Gouveia, 1998) are considered to be more integrative and parsimonious when compared with previous models (e.g., Inglehart, 1977; Schwartz, 1992), evidence of the adequacy of the FTLV outside the American (Gouveia, 1998; Medeiros, 2011) or the European continents (Gouveia et al., 2010; Marques et al., 2016) is still scarce. Therefore, this study aims to fill this research gap, testing this theory with a sample of Lebanese and Portuguese college students. Secondly, with this study we intend to characterize the priorities of of college students from these two countries, in order to have a better understanding of their social orientations and needs within a global context of tertiary students' mobility (Organisation for Economic Cooperation and Development, 2018).

LITERATURE REVIEW

Functional Theory of Life Values

According to the FTLV, values are personal categories of social orientation, understood as the preconditions to satisfy human needs, which can vary in terms of magnitude and type (Gouveia, 2003). In this theory, the values structure includes two functional vectors: a guiding vector, designed as a type of orientation, and a needs satisfaction vector, designed as a type of motivator. The first vector includes personal, central, and social orientations, and the second vector includes humanitarian and materialistic motivators. The crossing of the two vectors results in six subfunctions, each with three specific values. The more complete structure of the FTLV model is represented in Table 1. The subfunctions of excitement, promotion, suprapersonal, existence, interactive, and normative values result in a framework with a total of 18 specific life values (Table 1).

Table 1: Life Values Functions and Subfunctions

	Personal	Central	Social
Humanitarian	Excitement	Suprapersonal	Interactive
	Emotion	Beauty	Affectivity
	Pleasure	Knowledge	Belonging
	Sexuality	Maturity	Support
Materialistic	Promotion	Existence	Normative
	Power	Health	Obedience
	Prestige	Stability	Religiosity
	Success	Survival	Tradition

The authors of the FTLV proposed hypotheses related to the content and structure of life values. The content hypothesis predicts that the 18 specific life values will be indicators of the six life values subfunctions. The structure hypothesis predicts that the central values will be related to the personal and social values, forming a structural vector with an orientation function, and that the humanitarian and materialistic values are also related, forming a second structural vector with a motivational function.

Based on the FTLV, the basic values survey (BVS; Gouveia, 2003), was constructed. The FTLV hypotheses using the BVS have been corroborated in Brazil (Gouveia et al., 2009, 2010, 2014, 2015) and confirmed in several other countries (Ardila et al., 2012; Gouveia et al., 2010; Marques, Silva, & Taveira, 2018; Marques et al., 2016; Medeiros, 2011; Mohamed et al., 2019). However, these studies were conducted mostly in European or occidental countries, with the exception of Egypt and Israel, and mostly with groups of the general population. It is therefore important to continue to test the adequacy of the theory and operationalization in different cultural regions and groups, in order to assess the generalizability and differentiated utility of FTLV.

We are specifically interested in pursuing this research line with college students from different cultural regions to have valid measures of students' needs and social orientations, particularly when they move to another country to complete their education and become international students (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2015, 2018). This knowledge can inform institutional initiatives designed to understand international students' life needs and orientations, which constitute important factors of academic well-being and dropout prevention (Perez-Encinas & Ammigan, 2016; Rump et al., 2017).

Life Values in Middle-Eastern and European Students

Although the cross-cultural study of life values is a recurrent concern in the literature (e.g., Echter et al., 1998; Hofstede, 2001; Medeiros, 2011; Triandis, 2018), the comparison between Middle Eastern and Southeast European countries (e.g., Albania, Bulgaria, Croatia) in what concerns basic human values is not common (Faour, 2000; Gu, 2013; Ralston et al., 2012). Existing literature demonstrates that values structures are similar in different countries (Bilsky et al., 2011; Fontaine et al., 2008; Hanel, 2016; Hanel, Maio, et al., 2018; Schwartz et al., 2012), although their

salience or assortment can vary as a result of sample fluctuations and social context (Fischer et al., 2011, Ghorbani et al., 2004; Welzel et al., 2003). The results of the Hanel et al. (2018a) study, in turn, support the hypothesis that people in different nations can associate different behaviors with their representation of the same life value, while holding similar ideas about the meaning and importance of values in their lives. Moreover, the literature shows that people from different countries are self- and family-biased when they speculate about community and social goals and that these are not as individualistic as speculated. These findings occur independently of participants' culture, time spent in the culture, and the underlying value model used (e.g., Hanel, Woldradt, et al., 2018). This line of study can inform the governments and institutions responsible for integration practices of higher education students of all societies and more specifically of those societies dealing with more migratory and mobility phenomena.

Lebanon is one of the societies in the Middle East that has been affected by the migratory phenomena. Lebanon was devastated by civil war (1975–1990) and suffered an occupation and invasion by neighboring countries (Syria 1976–2005 and Israel 1978, 1982, 1993, 1996, and 2006). Recently, the consequences of the nearby Syrian civil war have also propagated into Lebanon (United Nations High Commissioner for Refugees, 2016). The country is witnessing an influx of Syrian refugees, in addition to acts of terror (e.g., multiple bombings targeting civilians) who have to work or study in Lebanon (Itani et al., 2018). The political violence and instability in Lebanon continues to affect Lebanese citizens who still live in an environment of social conflicts (Sanchez-Ruiz & Baaklini, 2018).

With regard to higher education, according to a European Commission report Loo, (2017), “Lebanese higher education is characterized by a historical openness to the outside world. However, there are no national policies or measures to promote the foreign mobility of students during their higher education studies.” This has an impact on the internationalization statistics of higher education students in Lebanon. Indeed, according to Institute of Statistics of UNESCO (2018) in 2015, 14,232 Lebanese students were seeking degrees abroad, and in 2014 there were 17,495 international students studying in Lebanon. The general situation in Lebanon and in the region—between internal political strife in Lebanon and fighting in neighboring Syria and Iraq—may be playing a significant role in the values priorities of Lebanese citizens.

Research on Middle Eastern college students' values is scarce and not very recent (e.g., Faour, 2000; Harb, 2010; Jarrar, 2013; Khashan, 1990; Moaddel et al., 2008; Sakalli, 2002). Khashan (1990) examined political values in Lebanese Maronite college students. The findings point to preference for pursuit of work and residence outside Lebanon, positive intragroup solidarity and cohesion, and strong feelings of distinction from all other Lebanese ethnic groups. Faour (2000) studied the profile of human values of 1,003 Lebanese college students based on Schwartz's theory of life values (Schwartz, 2012), reporting that 90% of the participants considered the family a major priority in their lives. Sakalli (2002) studied 207 college students from Middle East Technical University in Turkey, concluding that traditional and conservative values, sexism, and no contact with lesbian or gay individuals all predicted negative attitudes toward homosexuality. The study by Moaddel et al. (2008) was designed to understand the values priorities of Lebanese adults from

different ethnicities. The results show that about an equal percentage of the Shi'ites (48%) and Christians (46%) reported religion as very important in their lives. Feelings of insecurity were quite high among all ethnic groups, with family considered as very important to 80% of the sample, as well as obedience. Harb (2010) examined the values priorities of 1,200 Lebanese youths, 41.4% of whom had university studies. In this study, honor and hospitality and values such as benevolence and universalism were ranked as the most important, followed by the values of security, achievement, and self-direction. The least rated priorities were stimulation, hedonism, tradition, and power. Jarrar (2013) examined the values of a sample of 296 Jordanian college students and observed that spiritual, emotional, social, biological, and mental values were the most frequently chosen priorities by those students. Jarrar (2013) also concluded that the students would rather commit to tradition than to moral standards.

In Europe, Fjaer et al. (2015) studied British ($n = 473$) and Norwegian ($n = 472$) college students to understand if cultural values along with situational conditions regulate students' drunken behavior. Results indicated that the observed differences between country norms regulating drunk behavior are culturally constructed. Parks-Leduc et al. (2014) conducted a meta-analysis of 60 studies, most of which were with college students, demonstrating that basic personality traits and values are distinct constructs.

More recent research on youth values has considered the latest economic recession suffered by diverse European countries, triggered by the global financial crisis, with severe impact in employment opportunities and in socioeconomic status of families. Reeskens and Vandecasteele (2017) examined the impact of the recession on young people's human values, social attitudes, and well-being, based on the European Social Survey for 2008, 2010, 2012, and 2014. In what concerns values, they concluded that the experience of privation was related with more concern about the welfare of others (self-transcendence), but not with the other four assessed values of conservation, self-enhancement, hedonism, and openness-to-change.

Portugal is one of the European countries that is emerging from an economically turbulent period, and from an imposed austerity program that plunged the country into deep recession and higher emigration rates (Emigration Observatory, 2018). These circumstances are likely to influence the values priorities of Portuguese citizens. Portugal is also witnessing increasingly diverse populations in higher education, due in part to migration and mobility flows, with an increase of nonnative students in Portuguese universities (Alves, 2012; Carneiro & Malta, 2007; Direção-Geral de Estatísticas da Educação e Ciência [DGEEC], 2018a). Academic mobility among Portuguese students also is gaining prominence in the context of the internationalization of European higher education, with eventual repercussions in students' mentality and values priorities. According to governmental statistics (DGEEC, 2018b), in 2017–2018, there were 28,122 international students studying in Portugal, representing 7.5% of the total number of students enrolled in Portuguese higher education institutions in that year. Between 2016–2017 and 2017–2018, there was a 26.7% increase in the number of international students in Portugal. In addition, according to the available data, in 2014, Portugal had 9,525 students enrolled in higher education abroad (DGEEC, 2018b).

The values literature with Portuguese college students is scarce (e.g., Jardim et al., 2017). The existent evidence shows that life values covered by the life values inventory (LVI; Crace & Brown, 1996), in average, tend to be low in humility and higher in independence, realization, concern for the environment, getting along with others, being respectful in the relationship with others, and loyalty to family and group (Almeida & Tavares, 2009). Similar results were obtained in further studies (Fernandes, 2012; Pires, 2012), in which the participants tended to prioritize responsibility, and being tolerant and respectful in the relationship with others. More recently, Coelho and Casaca (2017) studied Portuguese college students, 53 women and 47 men, and found the women, when compared with men, presented the most egalitarian and progressive values and attitudes regarding gender roles in professional and family life.

This line of research on college students' basic life values among these two cultural contexts shows a diversity of focus and values profiles, which vary according to the specific purpose of the study or with the perspective of life values considered. As such, it is important to invest in the development of more systematic and consistent studies that allow us to perceive differences and/or commonalities in the life-values of college students from different regions and cultures. These efforts would also allow us to understand the priorities of international mobility for getting a degree or academic experiences in higher education. This mobility can be influenced by individual factors and is fostered and supported by family, employers, governmental entities, global ranking, or universities' prestige (e.g., Yakaboski et al., 2017), constituting an asset and also a challenge to higher education institutions (Alsaifi & Shin, 2017; Mesidor & Sly, 2016; Yan & Pei, 2018).

Research has suggested that the cultural and social adjustment of international students can have important effects in their academic adaptation to the new educational context (e.g., Li et al., 2018; Quintão, 2018). Some practical institutional strategies already exist to help international students deal with the need of academic adaptation. These include, for example, the preparation of peer tutors for the reception and integration of these students in the campus and studies or "discursive spaces" where the students have the opportunity to elaborate from their own experiences in collaborative discourses (e.g., Allen, 2018). It also seems important to develop studies on the personal needs, goals, expectations, and cultural values of these students and to understand eventual specificities, in order to help them to better adapt to different environments and academic success in a foreign country. Taking into consideration the aforementioned research needs, this study can contribute to highlight the transcultural value of the FTLV and to emphasize its utility to study the life values of two different cultural groups of college students, Lebanese and Portuguese.

METHODS

Design

Lebanese college students were invited to participate in the study by the Dean of Faculty of Human Sciences, who clarified the study purposes and asked the students to read and complete an informed consent if they agreed to voluntarily participate in

the study without expecting any material reward. A psychologist administered the demographic questions and a paper-and-pencil Arabic version of the BVS to the volunteer students, during regular classes. Confidentiality of the students' responses was assured. On average, the participants completed the survey in 15 minutes.

Portuguese college students were invited to participate in the study through email by a researcher responsible for the study or teacher of the university. It also stimulated the collaboration of other colleagues (snowball technique). Participants completed an informed consent and an online version of BVS. All responses were saved in SPSS files.

Participants

The participants were 565 college students, 278 Lebanese (57.9% males) between 17 and 26 years old ($M_{age} = 19.1$, $SD_{age} = 1.40$), studying architecture and technologies (38%), economics and management (36%), humanities (11.2%), sciences (8.3%), and health (6.5%), in a private Arabic university in Beirut, Lebanon, and 287 Portuguese (63.4% females) between 17 and 68 years old ($M_{age} = 28.1$, $SD_{age} = 9.97$), studying humanities (32.4%), architecture and technologies (31.4%), economics and management (18.8%), health (0.9%), and unspecified (16.5% did not answer this question), in two different Portuguese public universities from the northwestern region of the country.

Instrument

The participants completed some demographic questions (gender identity, age, school year, and faculty) in an Arabic and a Portuguese European version of the BVS (Gouveia, 2003). The original Brazilian version of the BVS was developed in Portuguese, the official language of the country. The BVS is composed of 18 items. For each item, two descriptors are presented, representing the content of the inherent value (e.g., Item 5, Emotion: Enjoy challenging danger; seek adventures). Participants are expected to carefully read each listed item and evaluate its importance as a life-guiding principle, using a 7-point scale, ranging from 1, *totally unimportant*, to 7, *of the utmost importance*. The 18 specific values are equally distributed among the six aforementioned subfunctions. There was evidence of factorial validity and internal consistency of this instrument in the Portuguese context, with Cronbach alpha coefficients ranging from .70 (suprapersonal) to .76 (excitement and normative) (Marques et al., 2016). The study of Medeiros (2011) has also shown that there is empirical evidence of the suitability of the instrument in 11 other countries with similar results. The BVS English version developed and tested by Medeiros (2011) was taken into account to develop an Arabic version. The English version of the BVS was translated into the Arabic language and then a blind retroversion was performed, with the help of a bilingual Arabic-English native translator. After these procedures, cultural, idiomatic, linguistic, and contextual aspects concerning the Arabic version of the BVS were considered. For example, in order, to guarantee the meaning of each specific value, we had in mind the subfunction that each value intended to represent. Considering the cultural differences, the item referencing sexuality that exists in the

English and Portuguese versions of the survey was replaced for another item that represents a less sensitive topic in the Arabic culture (“participate in as many activities as possible; enjoy dangerous sports”). According to Gouveia et al., (2010), it is possible to create new sets of BVS items in cultures where there are difficulties in understanding the original items, since it is more important to consider the construct subfunctions than to remain stuck with specific values.

In this study, in the Lebanese sample, the BVS alpha coefficients ranged from .49 (personal) to .60 (central and social values). In the Portuguese sample, the BVS alpha coefficients ranged from .64 (central values) to .74 (personal values). Low alphas are common in values measures (e.g., Bardi et al., 2014; Lönnqvist et al., 2011; Schwartz, 1992). One main reason for these results is the reduced number of items included in the scales (e.g., in the BVS, three items per scale). At the same time, we must bear in mind that a reduced number of items represents a research asset, contributing to a shorter questionnaire for easy completion.

Procedure

Data Analyses

Statistical analyses were performed with version 22 of the Statistical Package for Social Sciences (IBM SPSS Statistics 22). There were no missing values. We initially conducted descriptive analysis of the responses obtained, namely, frequency, mean, median, and standard deviation. Confirmatory factor analyses (CFA) were calculated through Amos software (version 21) to test the content hypothesis. In each country, the matrix of variance–covariance was considered, adopting the estimator maximum likelihood. Initially, we tested the original hexafactorial model, assuming the excitement, promotion, existence, suprapersonal, interactive, and normative subfunctions. This model was contrasted with other four alternative models: unifactorial (all items can saturate a single general factor), bifactorial (values are distributed according to the type of motivator: humanitarian and materialistic), trifactorial (values are organized according to the type of orientation: personal, central, and social), and pentafactorial (the subfunctions of existence and suprapersonal are merged to form “central values,” plus the other four subfunctions of promotion, excitement, interactive, and normative). The comparative fit index (CFI), the root mean square error of approximation (RMSEA), Akaike information criterion (AIC), and expected cross validation index (ECVI) measures were considered as indicators of model fit (Byrne, 2010; Kline, 2005; Tabachnick & Fidell, 2013). A significant change in χ^2 value, an RMSEA < .05, CFI > .01, and a lower AIC or ECVI are indicative of goodness of fit (Cheung & Rensvold, 2002).

The SPSS program was also used to perform the confirmatory multidimensional scaling (MDS, Proxscal algorithm), in order to test the structural hypotheses. A matrix of Euclidean distances was created from the raw data, converting the responses into z scores, considering $M = 0$ and the $SD = 1$. We used Tucker’s phi as a measure of model fit, with values close to .90 or higher indicating acceptable fit (van de Vijver & Leung, 1997). A multivariate confirmatory analysis was conducted using the SPSS program. A multigroup confirmatory factor analysis was performed to examine

measurement invariance of the BVS across the two countries. Two models, configural and metric, were estimated and were considered prerequisites for invariance. Fit indices of CFI, RMSEA, AIC, and ECVI, and changes in χ^2 are recommended to decide whether the fit of a model deteriorated significantly (Chen, 2007; Cieciuch & Schwartz, 2012). The generalized procrustes analysis (GPA) was conducted in Excel XLSTAT software (Commandeur, 1991) to compare the two-dimensional MDS configurations. The GPA proceeds in a similar manner to the method laid out for MDS. Mean differences for values were examined using the Independent Sample T-Test. Before running this statistical test, we verified the fulfilment of the normality and homogeneity assumptions (Tabachnick & Fidell, 2013).

RESULTS

The results of the descriptive, internal consistency and intercorrelations analyses of BVS subscales are presented on Table 2. The Cronbach's alpha coefficients indicate there is evidence for the internal consistency of values subscales. The results also show that, in the global sample, 14 of the 15 correlations were statistically significant. In the Lebanese sample, 13 of the 15 correlations were statistically significant, and in the Portuguese sample, all the 15 correlations were statistically significant (Table 2).

Table 2: Descriptive Statistics, Internal Consistency and Intercorrelations of Subfunctions

Subfunctions of values	<i>M</i>	<i>SD</i>	α	Scale intercorrelations					
Global									
Interactive	5.4	2.67	.45						
Suprapersonal	5.3	2.51	.47	.41					
Excitement	4.8	2.92	.52	.25	.34				
Normative	5.0	3.61	.57	.21	.08	.006			
Existence	5.8	2.58	.52	.46	.38	.26	.33		
Promotion	5.0	3.00	.51	.09	.21	.31	.39	.31	
Lebanese									
Interactive	5.1	2.74	.37						
Suprapersonal	5.2	2.71	.45	.35					
Excitement	4.7	2.83	.39	.16	.23				
Normative	5.5	2.85	.48	.42	.21	-.02			
Existence	5.8	2.69	.51	.44	.37	.04	.44		
Promotion	5.4	2.46	.22	.29	.18	.34	.14	.32	
Portuguese									

Subfunctions of values	<i>M</i>	<i>SD</i>	α	Scale intercorrelations					
Interactive	5.7.	2.33	.44						
Suprapersonal	5.5	2.22	.50	.41					
Excitement	5.0	2.93	.61	.25	.43				
Normative	4.5	3.59	.65	.39	.17	.18			
Existence	5.9	2.45	.56	.50	.39	.47	.37		
Promotion	4.6	3.00	.67	.22	.45	.51	.33	.42	

Note. *M* = mean, and *SD* = standard deviation, α = Cronbach's alpha.

The main hypotheses (content and structure) of the FTLV was then tested. Some preliminary analyses were conducted with each group of participants. There were no missing data across the items of the BVS. The items' descriptive statistics were calculated to examine the normality of the data. Items skewness values ranged from -0.22 to -1.53, while item kurtosis values ranged from -0.06 to 4.02. The assumptions of multivariate normality of sampling distribution and absence of outliers were previously checked. Considering that Mardia's coefficient of multivariate kurtosis was greater than 3, the verification of the violation of multivariate normality of sampling distribution was tested. Given a violation of this assumption (Garson, 2012), we opted for the robust method. The Mahalanobis distance statistic was calculated to detect the presence of multivariate outliers. No multivariate outliers were found.

The content hypothesis defines that the 18 specific values should represent six subfunctions, described as the original model. To test this hypothesis and to compare it with four alternative models, a CFA was conducted. The results of the original model and alternative models in the Lebanese and the Portuguese group of students are presented in Table 3. As it can be observed, as we increase the number of factors, the models present better results. The original model presents statistically better results than the other four alternative models. All loadings for this model were statistically significant ($p < .05$). The lowest loading was .55 in the Lebanese group for knowledge, .80 for support in the Portuguese group.

Table 3: Goodness-of-Fit Indicators of Models for Lebanese ($n = 278$) and Portuguese ($n = 287$) College Students ($N = 565$)

Model	χ^2	<i>df</i>	CFI	RMSEA	AIC	ECVI
Lebanese students						
One factor	347.64	135	.66	.075	455.6	1.65
Two factor	345.08	134	.67	.075	455.1	1.64
Three factor	324.37	132	.70	.073	438.3	1.58
Five factor			.73	.070	422.7	1.53

Model	χ^2	<i>df</i>	CFI	RMSEA	AIC	ECVI
Six factor			.76	.068	410.7	1.48
Portuguese students						
One factor	514.1	135	.68	.099	622.1	2.18
Two factor	504.9	134	.69	.098	614.9	2.15
Three factor	415.7	132	.83	.087	529.7	1.85
Five factor			.83	.076	461.0	1.61
Six factor			.84	.075	450.9	1.58

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation, AIC = Akaike information criterion, ECVI = expected cross validation index. * $p < .001$.

The results of the MDS analysis are presented in Figure 1 for Lebanese college students and in Figure 2 for Portuguese college students. The results of the structure hypothesis test indicate that central values are in the middle of the spatial configuration, with personal values on one side and social values on the other side.

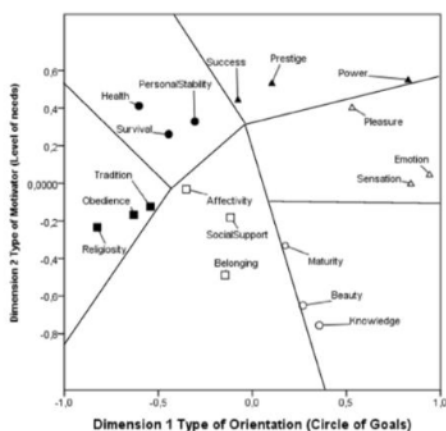


Figure 1: Spatial Representation of Values with Lebanese Students

As we can observe in Figure 1, it is possible to identify the theoretical six subfunctions of values in the MSD configurational space. The central values (circles) are located in the center of the distribution, separating social values (squares), on the left, from personal (triangles), which appears on the opposite side. Moreover, up on the Figure the materialistic values (filled figures) and down the humanitarian values (unfilled figures) appear in different regions of this space. The Tucker phi coefficient (.96) attests a satisfactory adjustment of the theory to the data.

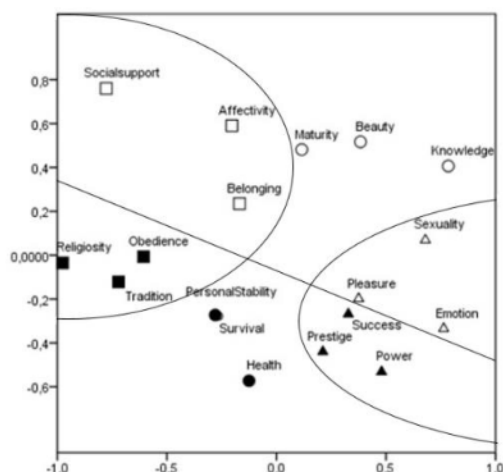


Figure 2: Spatial Representation of Values in Portuguese College Students

As observed in Figure 2, the results indicate that the six values subfunctions can be represented in a bi-dimensional space: type of orientation and type of motivator. The Tucker phi coefficient (.97) indicates a satisfactory adjustment of this spatial configuration to the data, indicating that the represented location of values provides a good fit of the theoretical structure of the FTLV to the data.

The Lebanese and the Portuguese results of CFA were compared and the models' measurement invariance was tested in the form of configural and metric invariance. The original model was submitted to a multigroup factor analysis, in order to examine the equivalence between the two cultural groups of college students. Two types of invariance were tested: unconstrained and measurement weight. A configural model was first established as a baseline model, with all parameters freely estimated (unconstrained) across countries. The results of this analysis are presented in Table 4.

Table 4: Multi-Group Analysis of Variance: Lebanese and Portuguese College Students

Model	χ^2	<i>df</i>	CFI	RMSEA
Unconstrained	582.67	240	.813	.050

Measurement weight	605.39	252	.808	.050
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Note. CFI = comparative fit index; RMSEA = root mean square error of approximation.

Results indicate that the original model is invariant between the two cultural groups of students. Fit indices showed that this model has adequate fit for the data, with $\chi^2(240) = 582.67$, CFI = .813, and RMSEA = .05, suggesting that the factor structure is similar across the two groups. A metric model was also established to test the invariance of all factor loadings. All item loadings related to each factor were constrained to equality. Fit statistics showed that the items of this model (compared to the configural model) contribute in the same way to the construct, independently of the group $\chi^2(252) = 605.4$, CFI = .81, RMSEA = .05.

We then ran a GPA in Excel XLSTAT software. Following the GPA, the spatial coordinates of individual subfunctions are directly comparable between Lebanese and Portuguese samples. The correlations between the coordinates are an index of the structural similarity in the two samples. The correlations between Lebanese and Portuguese sample coordinates after GPA are shown in Figure 3. In Figure 3 all items are near each other, and the points are all closer than in the first axis because 65% of the variability is concentrated on the first axis.

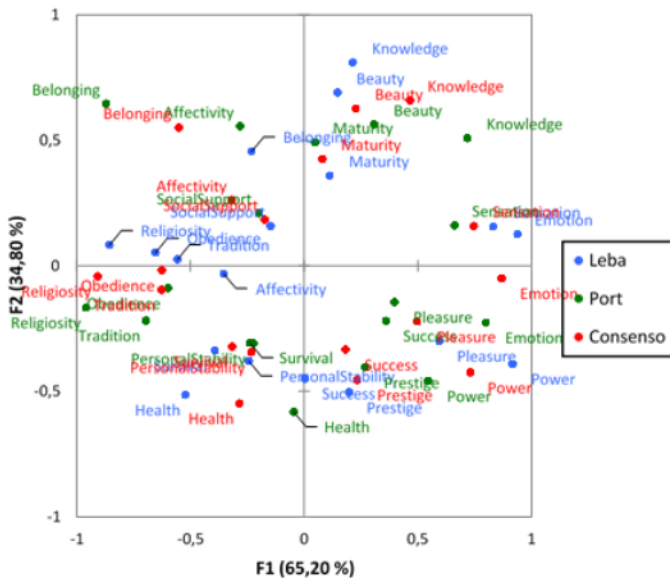


Figure 3: Spatial Representation of Values in Lebanese and Portuguese College Students

The results of the test of mean differences in life values between Lebanese and Portuguese college students are presented in Table 5. The results of this test show that there are statistically significant differences among the Lebanese and Portuguese

college students in all subfunctions, except on the existence subfunction $t(563) = -1.55, p = .12$.

Table 5: Life Value Subfunctions: Differences Among Lebanese ($n = 278$) and Portuguese ($n = 287$) College Students

Variable	Lebanese students <i>M(SD)</i>	Portuguese students <i>M(SD)</i>	$t(563)$
Interactive (Social)	5.13 (.91)	5.67 (.78)	-7.53***
Suprapersonal (Central)	5.16 (.90)	5.47 (.74)	-4.39***
Excitement (Personal)	4.66 (.94)	5.01 (.98)	-4.35***
Normative (Social)	5.54 (.95)	4.48 (1.20)	11.55***
Existence (Central)	5.81 (.90)	5.92 (.82)	-1.55
Promotion (Personal)	5.44 (.82)	4.63 (1.00)	10.56***

*** $p < .001$

Results show that Lebanese college students register significantly higher scores in normative and promotion values, when compared with Portuguese college students, and significantly lower scores values in interactive, suprapersonal, and excitement values, when compared with Portuguese. Additionally, general interpretations of the descriptive results shows that the Lebanese group point higher in existence, normative, and promotion values, and Portuguese in existence, interactive, and suprapersonal values. Additionally, normative and promotion values are the most prioritized by Lebanese but less prioritized by Portuguese.

DISCUSSION AND CONCLUSIONS

The main goal of this study was to assess the adequacy of the FTLV (Gouveia et al., 2009, 2010) with Lebanese and Portuguese college students. The results of this study can inform research and academic practices for higher education students from Eastern and Western cultures, in a global mobility tendency in higher education (OECD, 2018).

The results show that the dimensional model of values proposed by the FTLV fits the data in both groups. Specifically, the content hypothesis was confirmed, defining that 18 specific life values represent six values subfunctions. Additionally, the structure hypothesis of the model indicates that the central values are located between personal and social values, and that it would meet on opposite sides of the bi-dimensional space, which was supported by the multidimensional scaling results. These results allow us to assume that the life values structure proposed by the FTLV may be independent of the culture.

Nevertheless, when we characterize individuals according to their values, Lebanese and Portuguese college students' values profiles present significant

statistical differences. Lebanese college students present higher social and personal materialistic values than the Portuguese do. They prioritized normative (obedience, religiosity, and tradition), and promotion values (success, power, and prestige). These results are consistent with the study of Moaddel et al. (2008), with Lebanese adults, in which obedience and religion (normative values) are highly scored. However, in this study, the Lebanese also scored highly in promotion values (such as power, prestige, and success), which differs partially from the study of Harb (2010), where students registered high punctuations in achievement, a promotion value in the FTLV, but where also the least preferred values were tradition (normative value) and power (promotion value). These results show that Lebanese college students are concerned with personal, academic, and work goals, trying to reach success and prestige, but at the same time, they are concerned with basic goals such as survival, health, and stability. This fact is also congruent with Harb's (2010) assumption that Lebanese society is a noticeably educated population. However, they are still affected by the recent war story (UNHCR, 2016), prioritizing existence values. On the other hand, the Portuguese participants present higher points on existence and suprapersonal (central values) and interactive (social and humanitarian values) subfunctions. These humanitarian values reveal a universal orientation, based on abstract principles and ideas. These results are similar to those of previous studies with Portuguese college students (Almeida & Tavares, 2009; Fernandes, 2012; Pires, 2012), in which college students point higher in interactive (get along with others, being respectful in the relationship with others) and suprapersonal (responsibility, be tolerant) values. These results indicate that there are cross-cultural differences in values priorities, as was already stated (Echter et al., 1998; Hofstede, 2001; Medeiros, 2011; Triandis, 2018). Concretely, it seems that these differences are evident, not so much in the behavioral guiding function of values (personal, central, or social) but in the motivational function (humanitarian vs. materialistic). More developed societies in cultural and economic aspects (UNESCO, 2015) present higher humanitarian values than less developed societies (Fontaine et al., 2008). This differentiation of humanitarian and materialistic values depending on the context indicates differences in the psychological functioning of humans in different ecological and economical contexts (Fischer et al., 2011; Welzel et al., 2003).

Lebanese and the Portuguese participants valorize the existence subfunction, intended to ensure the basic conditions of survival and safety that these individuals may not perceive as guaranteed (e.g., Gouveia, 2013). These results can be related with the circumstances in which Lebanon, as well as Portugal, are recently witnessing an increase of diverse immigration flows (e.g., Alves, 2012; DGEEC, 2018a, 2018b; UNESCO, 2018), as well as college students' mobility, since some of these flows can be guided by individuals' needs of existence fulfilment.

The study of values with college students from different nationalities and cultural contexts can provide important clues to facilitate the reception and integration of international students and students under university exchange programs between countries with different cultures, such as Lebanon and Portugal. This knowledge can contribute therefore, to promote the internationalization and successful contexts of students' mobility (Quintão, 2018). For example, it is important that Middle Eastern countries promote social opportunities of integration and acquaintanceship for

European students such as group rooms for foreign students to get involved with each other, or the development of mentorship programs, where they can be supported by older students or student partners. On the other hand, European countries could plan their reception activities by taking into consideration materialistic values. They could have an adequate reinforcement system, for example, providing places to study with good physical conditions once it seems to be important for some of these students, like those of our Lebanese sample. It is also important that European countries provide opportunities for the Middle Eastern students to be recognized for their skills and supply certificates of these competencies and efforts.

Despite these results, there are strengths and limitations of this study that should be taken into account, since they constitute a challenge for future research on life values. The sample size, which could be larger, the disparity between the number of females and males, and the range of ages of the samples of this study, lead us to be cautious with regard to the conclusions drawn from this study. However, the study of life values with in Middle Eastern and southwestern European countries are scarce, which is a reason why this study appears to be promising. It is important to continue this study, enlarging the sample with different Middle Eastern or European countries or different university contexts, in order to increase the certainty of the results obtained. It is also important to note that this was the first study with Lebanese and Portuguese college students, using the BVS. This study allows the assessment of the adequacy of the FTLV with these populations and opens the possibility for the continual development of studies of this nature with life values in the future.

AUTHOR NOTE

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