

Life Values Inventory (LVI): Portuguese Adaptation Studies

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Abstract

Studies here presented were carried out with the Life Values Inventory (LVI), a relatively new instrument created by Crace and Brown (1996). It focuses on values assessment, a crucial psychological dimension in vocational development.

Following a literature review about values and their use in career counseling, the Portuguese adaptation of the LVI is presented. Some results concerning psychometric properties are also discussed.

Theoretical Background

Introduction

As Crace and Brown (1996) have pointed out, values have long been viewed as important determinants of human behavior (Allport, Vernon & Lindzey, 1960; Rokeach, 1973; Super, 1990). In addition, values have been empirically linked to important aspects of organizational behavior (Meglino, Ravlin, & Adkins, 1989), academic performance (Coyne, 1988), career decision making (Ravlin & Meglino, 1987), and marital satisfaction (Vaitkus, 1995). They have also been identified as important determinants of culturally unique behavior (Sue & Sue, 1990), and thus are critical to the understanding of cultural differences (Brown, 2002). Like the previous studies have found, values have a large influence on human functioning, however, career counselors, marriage counselors, health educators, organizational psychologists, and others frequently do not use values measures in their work because of the absence of an empirically based, easily

administered and scored values inventory. The *Life Values Inventory (LVI)* was developed (Crace & Brown, 1996) to answer that need.

Most existing values inventories have been developed either as general measures of values (e.g. Allport, Vernon, & Lindzey, 1960) with no direct link to life roles, or as work values inventories (e.g. Nevill & Super, 1986) with relationships to the work role only. In general, work values inventories do not encourage people to explore other life roles in the career planning process, which seems inappropriate given the interactions that occur among the work role and other life roles (Brown & Crace 1996). Nonetheless, Super's research about life roles, values, and careers, in the 90's, was the most important contribution in this field (Super & Sverko, 1995).

Also, inventories such as the *Rokeach Values Survey* (Rokeach, 1973) have limited utility because they provide no crosswalks to make decisions about careers, suitable marital partners, leisure activities, and so forth based on the results. The LVI is a tool to fill in the vacuum between work values inventories and general values inventories by creating a values inventory that can be used as a decision making aid by people who are debating with decisions regarding work, education, relationships, and leisure.

The LVI above all is an effort to promote holistic thinking in the decision making process. It is long overdue that practitioners stop focusing on one role at a time as they assist people making career selections, dealing with marital problems or choosing among leisure activities. The use of LVI will helpfully

assist the practitioners in the focusing in a holistic approach to role-related decision making.

Values definition

The first step in the process of developing the LVI was to uphold Rokeach's (1973) definition of values, as standards that not only guide the behavior of the individuals who hold them, but also support their judgement about the behaviour of others. Rokeach differentiated values from interests on two grounds: the role of values as standards, and the number of values people have versus interests. Interests are preferences or likes, not standards against which individuals judge their own behavior as well as the functioning of others. Moreover, individuals may develop several interests, but they develop rather few values. Needs may also serve as a guide to behavior, but according to Rokeach (1973), they are transitory, and once satisfied, they may not influence behavior for varying amounts of time. Values develop so that individuals can meet their needs in socially acceptable ways, but unlike needs, transcend situations and are stable influences on behavior. Finally, not only do values provide individuals with a basis for judging the appropriateness of their behavior in the present, they also provide them a sense of what goals they would like to attain in the future. Once developed, values become the primary basis for goal setting.

Theoretical underpinnings

Brown's Holistic Values-Based Theory of Life Role Choice and Satisfaction (Brown, 1996; Brown & Crace, 1995) underpins the LVI. This

theory draws on Rokeach's (1973) theory and research, as well as some aspects of Super's (1990) theory, to explain the decision making process and the satisfaction that results from role related decisions. Some basic propositions – presented as follows – were also conceived. As Brown & Crace 1996, pointed out: "they are a synthesis of others theories, the research data available regarding values, and, in some instances our own speculation." (Brown & Crace 1996, p.212).

Each person develops a relatively small number of values that are organized into a dynamic values system. Rokeach (1973) suggested that there are 36 human values, but factor analysis of his work suggests that the number is much smaller (Braithwaite & Law, 1985). The LVI measures 14 values that are guides to behavior as people make important life decisions.

Crystallized, highly prioritized values are the most important determinants of life role choices so long as values-based information regarding the choices is available. Crystallized values have meaningful labels and definitions that can be used by individuals to describe themselves. In a situation where none of the options available will satisfy the values of the decision maker, the option that conflicts least with strongly held, highly prioritized values will be selected. Research by Ravlin and Meglino (1987) and Judge and Bretz (1992) strongly suggests that, when options that are related to the strongly held values of the decision maker are available in the decision making process, those options are frequently chosen. Moreover, Schulenberg, Vondracek and Kim (1993) found that certainty of career choice was directly related to the strength of the values held by the individuals they studied.

Values are the dominant factor in the decision making process, but other factors influence decision making as well. Self-efficacy and interests will also have an impact on decision-making (Bandura, 1986; Feather, 1988; Rokeach, 1973). Feather (1988) studied how college students make career choices and found that, while values were the dominant factor in the decision making process, self-efficacy

became a factor when one of the options being considered was viewed as more difficult to attain than the others being considered.

Because of the diverse sources of information and experiences that influence values development, it is likely that each person will experience values conflicts. When competing values come into play in the decision making process, the result will be ambivalent feelings and perhaps procrastination. This hypothesis has not been tested directly.

Due to differences in their socialization process and the values laden information they receive, males and females and people from various cultural backgrounds are able to develop differing values systems. Cross cultural studies of values by Brenner, Blazini, and Greenhaus (1988), Leong (1991), and others have shown that values vary by gender and ethnicity.

Life satisfaction will be more than the sum of the products of the life roles filled taken separately. This hypothesis has not been tested at this time, although Hesketh (1993) and others have written in support of this idea.

Life roles interact in characteristic ways. They may interact synergistically (complementary), entropically (conflicting), or interact to maintain homeostasis (supplementary) (Super, 1980). Testing this hypothesis, Pittner and Orthner (1988) found that job commitment could be predicted by attending to the extent to which the organization was perceived to be supportive of their families. In another related study, Watson and Ager (1991) found that the frequency with which people between the ages of 50 and 90 performed valued life roles was directly related to life satisfaction. Finally, O'Driscoll, Ilgen and Hildreth (1992) found that there were negative links among the amount of time spent on the job, factors that interfered with the job and satisfaction with roles beside job.

The salience of a single role can be determined by the extent to which that role satisfies crystallized, highly prioritized values. However, few people will have all of their values satisfied in a single role. When more than one role is required to satisfy values, the salience of values in the values systems shifts

dynamically as the person moves from role to role because of the expectation that different values will be satisfied in different roles. Flannelly (1995), who used a modified version of the LVI in his research, found that when people rated the values they hoped to satisfy within various roles, their ratings varied significantly from role to role.

Success in a life role will usually depend on (1) the congruence between the person's values and those of others in the role; (2) role related skills which the person has developed prior to entering the role; (3) the person's ability to cope with change, as the demands of the role change; and (4) the nature of the interaction of the role with other roles performed by the individual. Ravlin and Meglino (1987) found a direct relationship between the congruence of supervisors and workers values and job satisfaction. Research on the Theory of Work Adjustment (Dawis & Lofquist, 1984) has also been supportive of this proposition.

Several types of values-based problems sometimes require therapeutic interventions. These include (1) values poorly crystallized and/or poorly prioritized; (2) intra-personal values conflicts; (3) intra-role values conflicts; (4) inter-role conflicts that may or may not be values-based; and (5) perception that values satisfaction is blocked resulting in depression. This proposition has not been tested directly at this time.

The Life Values Inventory (LVI)

Description

The LVI has a quantitative and a qualitative part. The quantitative one contains 42 items that measure 14 relatively independent values. It also contains several qualitative exercises that may be useful in helping people to crystallize their values. The values measured by the LVI are *Achievement*, *Belonging*, *Concern for the Environment*, *Concern for Others*, *Creativity*, *Financial Prosperity*, *Health and Activity*, *Humility*, *Independence*, *Loyalty to Family or Group*, *Privacy*, *Responsibility*, *Scientific Understanding*, and *Spirituality*. More specifically, Achievement corresponds to the importance of challenging our-

selves and to work hard to improve. *Belonging* reflects the importance of being accepted by others and to feel included. *Concern for the Environment* corresponds to the importance of protecting and preserving the environment. *Concern for Others* takes into account how the well being of others is important. *Creativity* states that it is important to have new ideas or to create new things. *Financial Prosperity* corresponds to the importance of being successful at making money or buying things. *Health and Activity* considers the importance of being healthy and physically active. *Humility* is linked to the importance of being humble and modest about our accomplishments. *Independence* takes into account the importance of making our own decisions and making things our way. *Loyalty to Family or Group* reflects the importance to follow the traditions and expectations of our family or group. *Privacy* is related to the importance of having time alone. *Responsibility* corresponds to the importance of being dependable and trustworthy. *Scientific Understanding* values the use of scientific principles to understand and solve problems. Finally, *Spirituality* is defined by the importance of having spiritual beliefs and to believe that we are a part of something greater than ourselves.

When answering to the LVI, people are asked both to rate the strength of their values and to rank them by order of importance. They are first asked to rate the degree to which the beliefs contained in the 42 items are currently guides to their behavior. These are then self-scored and individuals are asked to circle those values which they view as the most important determinants of their behavior. The next step in the assessment process is to complete a series of qualitative exercises and, the information obtained with these exercises along with the data derived from the ratings, is used to rank their most important values. The final step in the process is for each individual to rank the importance of the values they hope to see satisfied in each of four life roles: Job; Student; Family and Important Relationships, and Leisure and Community Activities.

The LVI scales were selected on

the basis of a series of factor analysis studies. Many of the existing values inventories contain scales that are highly correlated, sometimes exceeding .50. Because intercorrelations of this magnitude confound the interpretation process, one goal in the development of the LVI was to create values scales that were relatively independent. Two methods were used to determine the reliability of the LVI scales: test-retest and internal consistency using Cronbach's alpha. Both types of reliability coefficients were satisfactory. The validity of the LVI was determined using a traditional convergent and divergent validity check as well as a more rigorous predictive validity check.

As noted above, one of the goals in the LVI development was to create an instrument that has acceptable psychometric properties. However, a second goal was pursued just as vigorously. This one was to create a culturally sensitive instrument that could be used with confidence in both genders and all major cultural groups. To achieve this goal, the LVI was submitted to two rounds of reviews by knowledgeable representative members of several cultural groups and subgroups. At various stages of development of the instrument, feedback was received from members of two Native American tribes, two Hispanics (a Cuban and a Mexican American), one Asian American, one African American, and others who were aware of the issues involved in measuring values in several cultural groups. The items and instructions were also reviewed to determine whether they were sensitive to the unique concerns of women.

To sum up, the LVI was developed for use in career counseling, marriage counseling, retirement counseling and planning, leisure counseling, team building (either in sport or the workplace), and other activities in which decision making and/or interpersonal functioning are important.

Interpretation

Interpretation of the LVI should begin with a look at the individual's values system. Thus, it begins by identifying the values that have been considered as most important.

When interpreting the LVI, several

ideas should be kept in mind: a) values are guidelines to our behaviour, being the primary basis for goal setting. Thus, they are also the basis for short and long-term goal setting and the primary source of life satisfaction; b) individuals are satisfied with a particular role when their behavior is congruent with their values and they can engage in self-reinforcement. External feedback may or may not confirm their own perceptions; c) they are dissatisfied when their role related behavior is not according to their own perceptions of what is appropriate for them; d) individuals may be dissatisfied with co-occupants in a role who do not meet their expectations. These expectations are generated on the basis of their values; e) dissatisfaction with others reveals itself in the form of subtle or direct disapproval and often results in intra-role friction. Finally, few individuals achieve total life satisfaction on the basis of their functioning in one role, and thus it is important for individuals to craft an overall life plan that allows them to satisfy all essential values. In most instances this means identifying at least two or three roles that may satisfy strongly held values.

To amplify the points made in the foregoing paragraph, it should be kept in mind that the LVI measures 14 values. Eleven of these values can be at least partially satisfied in the work role: Achievement, Belonging, Concern for the Environment, Concern for Others, Creativity, Financial Prosperity, Health and Activity, Independence, Responsibility, Scientific Understanding, and Spirituality. Values that may influence occupational choices because of the nature of the working environment but are unlikely to be satisfied in these roles are: Humility, Loyalty to Family or Group, and Privacy. People who have identified one or all of these three values as being among their most important ones need to carefully structure roles other than the job or career if they are to satisfy these values.

Most individuals will try to satisfy their most highly prioritized values in more than one role, although this may not always be possible. For example, a person who has as a highly prioritized value, Loyalty to Family or Group, and

has an unsatisfactory marital relationship, may want to establish collegial leisure relationships if the couple decides that dissolving the marriage is not an acceptable alternative. Similarly, because of the dynamic nature of the workplace, many people find themselves in jobs that have changed to the point where they are no longer satisfying, but because of their age or personal circumstances they find it impossible to seek another job. These people must seek alternative sources of satisfaction in their relationships with others or in leisure or community activities.

Using values in career counseling

Career counseling should consider the impact of the career decision on other life roles (Brown, 1996; Brown & Crace, 1995). In this process the LVI can be used to help clients (1) crystallize and prioritize their values, (2) identify the values they hope to see satisfied in their careers and other life roles, (3) determine sources of intrapersonal values conflicts, (4) identify the locus of intrarole conflicts, and (5) estimate the source(s) of interrole conflicts.

A value is *crystallized* whenever it has a label that is meaningful to the individual. Whenever a client says, "One of my values is Concern for Others", he has a crystallized value. When a client can rank the importance he attaches to each value, he has a prioritized value system. Both crystallization and *prioritization* normally occur in the process of completing the LVI unless clients have given little thought to their values or have intrapersonal values conflicts. On the other hand, *intrapersonal conflicts* are experienced as feelings of ambivalence. These clients may have trouble generating their overall values ranking and/or the values they hope to see satisfied in their work role. Intrapersonal conflict can occur when a person holds two contradictory values to be important, such as Belonging and Independence. Unresolved feelings of hurt, anger, guilt or fear due to life experiences can also be a form of intrapersonal conflict. In this instance, unresolved issues are getting in the way of values fulfillment. Examples of this may include unresolved hurt getting in the way of trust

and a fulfilled sense of Belonging; or a strong fear of failure getting in the way of Achievement. Counseling may be required to assist them in identifying the source of the conflict, particularly if they have doubts regarding the career choice. *Intrarole conflicts* occur whenever the demands of the job conflict with the values of the worker. People who value Creativity and find themselves in routine jobs that discourage or punish creativity will experience intrarole conflict. Their choices are to (1) leave the job, (2) restructure the nature of their job role, or to (3) develop compensatory roles outside the job that allow them to satisfy their Creativity value. People who are "stuck" in their job because of personal or interpersonal circumstances will often need assistance in pursuing the choice of developing compensatory roles. Finally, *interrole conflicts* occur whenever the demands of the job preclude the individual from satisfying their values in other life roles or when other life roles interfere with the job to the degree that important work values are not satisfied. People who experience interrole conflicts may need to restructure their jobs or their other life roles, or learn some basic skills such as time management, assertiveness, communication, and/or decision-making skills.

Portuguese Adaptation of the LVI

Experimental version

The research's first step was the translation to the Portuguese language of the *Life Values Inventory* published at the Life Values Resources (EUA) in 1996. This work had the special concern of going beyond a literal translation, in order to adapt the items to the Portuguese culture. After a first translation, it was asked to experts on the theme to express their opinion, in order to guarantee the technical and scientific accuracy aspects. It was also demanded to people without education in psychology to give their contribution about the items understanding. Although the development of the experimental version required some changes, these were minimum since the concern of maintaining it as close as possible from the original one was always present. For

example, sometimes it was necessary to use easier and more employed words in the portuguese language; nonetheless, there was a constant concern on maintaining their meaning close to their equivalent in the english language.

Thus, the Portuguese experimental version includes a test register which contains the instructions and the items, as well as the answering places. In the end a sheet for the demographic data was also included (Almeida & Pinto, 2002).

The Inventory has three parts. First, a quantitative part that begins with a values definition and an example which explains how the subject should respond to the 42 items that follow. Thus, the subject will use a 1 to 5 Likert scale which allows identifying how the presented belief guides the individual's behaviour (1 meaning *almost never guides my behavior* and 5 meaning *almost always guides my behaviour*). In pages 2 and 3, the subject will find a list of 42 *beliefs* which he/she has to classify with the 1 to 5 scale. Page 4 presents a synthesis table for the scores, to be filled in on their own. The subject must add the scores of the pages 2 and 3 as it is showed in page 4. Page 5 presents a Values Profile, a list of the 14 values evaluated by the Inventory, preceded by a little square that should be filled with the value obtained at page 4, and after he must point out the 5 highest values. This ends the first part of the Inventory. Part II is a qualitative one, where the subject continues to explore his or her values through a series of qualitative exercises. These exercises stimulate the subject to think a little more about the values. At the end of Part II and after completing the 5 exercises proposed – where it is also demanded to use the list of values on page 5 – the subject must do a *list of important values* and a *list of non important values*. After completing Part II the subjects are ready to begin Part III, where they are asked to identify which of their most important values they expect to see satisfied in each one of 4 major life roles (Job, Student, Family and Important Relationships, and Leisure and Community Activities).

Research design and participants

After adapting the LVI, a preliminary study was carried out (Almeida & Pinto, 2002). This first essay had as major goals the rehearsal of the standardization conditions, namely the presentation of the instrument and its instructions, aiming to identify possible difficulties in understanding the items' contents and to verify the average time of response.

This instrument was used in a total sample of 314 participants: 92 higher education students, 159 working students and 63 workers (209 of the female gender and 105 of the male gen-

der), with ages between 18 and 55 years.

Psychometric properties

To evaluate the scores obtained some procedures of data analysis were developed. Table 1 presents the study of the distributions for each one of the 14 values.

Generally, the asymmetrical coefficients are not very far from zero, except for the Value 'Responsibility', which presents a higher coefficient; and the Kurtosis coefficients present higher values. The minimum scores are reached in 9 of the 14 values of the instrument.

The maximum scores are reached in all the considered values. The mean scores are very high. All values present means higher than 9. Nonetheless, it should be noted that some of the standard deviations suggest some degree of dispersion in the answers.

Table 2 includes the alpha coefficients in the American and Portuguese samples. Some Portuguese coefficients are not very high, in particular for the value Independence, which is also the lowest in the American sample.

The item analysis for the total sample (table 3) shows a factorial structure where 13 factors were identified, corre-

Table 1 – Distribution of standard scores (n= 314)

	Mean	SD	Median	Kurtosis coefficients	Asymmetrical coefficients	Range
Achievement	12.11	1.94	12	.69	-.47	5 - 15
Belonging	10.72	2.39	11	.15	-.40	3 - 15
Concern for the Environment	11.75	2.39	12	-.26	-.41	5 - 15
Concern for Others	12.13	1.95	12	.12	-.44	5 - 15
Creativity	11.41	2.30	12	.74	-.57	3 - 15
Financial Prosperity	10.38	2.83	11	-.19	-.42	3 - 15
Health and Activity	10.38	2.72	10.50	-.31	-.33	3 - 15
Humility	9.50	2.25	9	.24	-.22	3 - 15
Independence	11.61	1.88	12	1.16	-.55	3 - 15
Loyalty to Family or Group	11.83	2.19	12	1.26	-.91	3 - 15
Privacy	11.42	2.37	12	-.07	.50	4 - 15
Responsibility	13.51	1.67	14	2.33	-1.16	6 - 15
Scientific Understanding	9.59	2.78	10	-.47	-.130	3 - 15
Spirituality	10.48	3.42	11	-.64	-.37	3 - 15

Table 2 - Alpha of Cronbach coefficients for the american and portuguese samples

	American sample	Portuguese sample
Achievement	.74	.63
Belonging	.77	.67
Concern for the Environment	.86	.73
Concern for Others	.69	.73
Creativity	.86	.75
Financial Prosperity	.84	.85
Health and Activity	.74	.75
Humility	.64	.57
Independence	.55	.22
Loyalty to Family or Group	.75	.64
Privacy	.83	.79
Responsibility	.68	.78
Scientific Understanding	.80	.81
Spirituality	.88	.85

Table 3 – Factor analysis of the LVI's scores for total sample (n= 314)

Factor 1	Believing in a higher power Believing that there is something greater than ourselves Living in harmony with my spiritual beliefs	.91 .89 .79	Factor 7	Protecting the environment Taking care of the environment Appreciating the beauty of nature	.84 .83 .47
Factor 2	Creating new things or ideas Coming up with new ideas Discovering new things or ideas	.77 .72 .67	Factor 8	Being liked by others Being accepted by others Feeling as though I belong	.72 .76 .67
Factor 3	Making money Having financial success Being wealthy (having lots of money, land, or livestock)	.85 .84 .77	Factor 9	Taking care of my body Being in good physical shape Being strong or good in a sport (being athletic)	.80 .83 .61
Factor 4	Being sensitive to others needs Being concerned about the rights of others Helping others	.75 .74 .59	Factor 10	Using science for progress Knowing things about science Knowing about math	.76 .81 .45
Factor 5	Having quiet time to think Having a private place to go Having control over my time	.76 .66 .61	Factor 11	Downplaying compliments or praise Being quiet about my successes Avoiding credit for my accomplishments	.70 .66 .60
Factor 6	Being trustworthy Being reliable Meeting my obligations	.74 .56 .42	Factor 12	Working hard to do better Improving my performance Challenging myself to achieve	.68 .51 .24
			Factor 13	Giving my opinion	.75

Table 4 – Factor analysis of the LVI's scores for women sample (n= 209)

Factor 1	Having financial success Making money Being wealthy (having lots of money, land, or livestock)	.86 .84 .77	Factor 8	Being sensitive to others needs Helping others Being concerned about the rights of others	.80 .56 .58
Factor 2	Believing in a higher power Believing that there is something greater than ourselves Living in harmony with my spiritual beliefs	.90 .87 .77	Factor 9	Taking care of my body Being in good physical shape Being strong or good in a sport (being athletic)	.75 .82 .33
Factor 3	Being trustworthy Being reliable Meeting my obligations	.57 .76 .51	Factor 10	Being liked by others Being accepted by others Feeling as though I belong	.78 .70 .63
Factor 4	Coming up with new ideas Creating new things or ideas Discovering new things or ideas	.75 .71 .66	Factor 11	Accepting my place in my family or group Respecting the traditions of my group or family Making decisions with my family or group in mind	.40 .67 .63
Factor 5	Protecting the environment Taking care of the environment Appreciating the beauty of nature	.83 .77 .44	Factor 12	Downplaying compliments or praise Being quiet about my successes Avoiding credit for my accomplishments	.64 .64 .75
Factor 6	Having quiet time to think Having control over my time Having a private place to go	.75 .40 .67	Factor 13	Improving my performance Working hard to do better	.33 .70
Factor 7	Using science for progress Knowing things about science Knowing about math	.77 .82 .25	Factor 14	Giving my opinion Challenging myself to achieve	.78 .22

sponding to the ones found in the American sample, except for the items concerning the value 'Loyalty to Family or Group', which did not emerge, and some items concerning the value 'Independence'. Nevertheless, in the item analysis for female sub-sample (table 4), the 14 American values were identified. Attending to all these results, it was considered that the Portuguese adaptation should include the same 14 values, introducing some improvements in the items of the referred two values.

Conclusion

Values studies have been revealing themselves increasingly important in vocational research and practice; the LVI corresponds to a quantitative and qualitative approach in this area and presents an interesting new instrument in psychological assessment.

The studies and use of the LVI in Portugal are taking place in the aim of a research plan with several groups, such as secondary and higher education students, women and some cultural minorities, with the goal of achieving an LVI Portuguese adaptation useful to several populations.

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