Revista Actividad Física y Ciencias

Vol. 1, Nº 2. 2009

Leisure and Quality of Life – LQOL-70: An Instrument of Evaluation of Quality of Work Life Based on Leisure

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(Recibido: Septiembre 2009. Aceptado para Publicación: Noviembre 2009)

Abstract: The paper is the result of studies regarding quality of life, especially concerning the workers' quality of life. Based on these studies, an instrument to evaluate quality of life was elaborated. Directed mainly to individuals connected to the productive environment, the instrument developed is based on free time categories present in the Norbert Elias theory. The issues that compose the instrument rely on relevant aspects belonging to the physiological, psychological and sociological spheres. Initially, a pilot application to validate the instrument was carried out. All the employees from the "test" company were the questionnaire respondents, to guarantee the universe of the sample. From the results of the application, based on Cronbach's alpha coefficient, the validation of the developed instrument was obtained. A re-test was also applied to guarantee the consistency of the instrument. Without doubts, the leisure is an inseparable factor in the quality of life. Through this study, it is attempted to make feasible an instrument with psychometric satisfactory characteristics, easy to fill out and not requiring the use of Statistical Package for the Social Sciences (SPSS) syntax.
Keywords: quality of life, leisure, quality of work life, free time

Ocio y Calidad de Vida – LQOL – 70: Un Instrumento de Evaluación de Calidad de Vida de los Trabajadores Basado en el Ocio.

Resumen: Este informe es el resultado de estudios referents a la calidad de vida, refiriéndose especialmente a la calidad de vida de los trabajadores. Se elaboró un istrumento para evaluar la calidad de vida en basado en estos estudios. Dirijido principalente a individuos conectados con el aparato productivo, el instrumento está basado en las categorías de tiempo libre presentadas por la teoría Norbert Elías. Los temas que componen el instrumento abordan aspectos relevantes referents a las esferas fisiológicas, psicológicas y sociológicas. Al principio se llevó a cabo una aplicación piloto para validar el instrumento. Quienes respondieron el cuestionario eran todos empleados de la compañía "de prueba", para garantizar el universo de la muestra. Se obtuvo la validación del instrumento por medio de los resultados de la aplicación, basándose en el coheficiente alfa de Cronbach. De igual forma se aplicó una segunda prueba para garantizar la consistencia del instrumento. Sin duda, el ocio es un factor inseparable de la calidad de vida. Por medio de este estudio, se intenta hacer factible un instrumento con características psicométricas

satisfactorias, fácil de llenar y que no requiera el uso de sintaxis del Paquete Estadístico de Ciencias Sociales (SPSS).
Palabras claves: calidad de vida, ocio, calidad de vida laboral, tiempo libre.

1. Introduction

The preoccupation with the quality of life is increasingly in the last decades. The holistic vision of the man as a biopsychosocial starts to gain space, even in the business environment. This reflection becomes stronger from the perception that the workers development is strongly related to his quality of life.

High levels of obesity and heart disease, diabetes, and depression has been a scenario present in the populations. Such fact is due to the high level of the sedentariness occasioned by technology advancements, as much at home as at work. As a consequence, it is estimated that the physical inactivity leads to a high number of death per year (Gobster, 2005).

Despite the process of these reflections, it is also enforced the understanding that leisure activities constitute a direct factor of influence in the quality of life. However, feasible is also the understanding that such activities have been extinguished from the worker's quotidian, especially in this society that can be defined as the knowledge society. Based on such prerogatives, the purpose of the present study is to create an instrument to evaluate the quality of life of the people, especially the workers. This instrument will have in its base the relation between leisure and quality of life, comprehended in its social, psychological and physiological aspects.

Contrary to what it may seem, the preoccupation with life style is very old, and it arose with Socrates around 400 b.C. (Andujar, 2006). However, the term quality of life was mentioned for the first time by Lyndon Johnson, in 1964. He was president of the United States of America in that time and stated that the objectives of a nation could not be measured through bank balance, but by the quality of life provided to people (Fleck et al., 1999). Ever since, researchers

from several knowledge areas have concentrated their studies in this particular field. Even if it is not possible to define quality of life in just one concept, it can be observed that the writers are unanimous when it comes to subjectivity, multidimensional aspects and the existence of quality of life positive and negative dimensions (Mion et al., 2005).

This way, it might be stated that there is not an absolute concept of quality of life, but the differentiated vision from researchers in many different areas. According to Gaspar (2001), it is possible to define quality of life as a subjective set of impressions that each human has, being simultaneously a product of several factors that affect him and a process that he experiment each moment.

The previous statement evidences that quality of life varies from individual to individual, and it comes from the result of a variety of experiences experimented by the individual. According to Santos (2002), a good quality of life should offer conditions so that people can develop the maximum of their potentiality in all of their activities.

Under this point of view, it is expressed the idea that the quality of life is directly related to personal pleasure and suffers interference of the daily life in all of its aspects, which leads to the understanding that Mion et al. were correct when pointing quality of life as a factor directly dependent on the individual satisfaction, as well as the environments with which he has contact. Starting from that premise, it is perceptible that various are factors that influence in the quality of work life, like payment, motivation, autonomy, learning opportunities, environment and so on. This way, the evaluation of quality of work life can be seen as the result of little details that, when accumulated at determined level of diseases (physical or mental), may result in the collaborator's lower performance, and consequently, in a deficiency in the production chain of the company.

The following research is justified by the fact that the quality of life and leisure activities have a tight correlation. Nevertheless, in the contemporary society such activities are not being contemplated as they were in previous occasions. Through this study it is intended to diagnose the level of damaging has the lack of leisure activities been in the quality of life of the collaborators.

The investigation has as objective the development of an instrument for assessing the quality of life based on leisure, sustained by the theory of Norbert Elias and the categories of free time. Based on the precept that man is a biopsychosocial being, such instrument was founded in three major areas: physiological, psychological and sociological.

2. Quality of work life

Despite the discussions about quality of work life are recent, that concern was already present in past centuries, being here mentioned the law of levers instituted by Archimedes, in 287 b.C., which aimed to reduce workers physical effort (França Júnior & Pilatti, 2004).

The term quality of work life had its origin around 1950 when the initial concerns regarding the relationship with man-labour in the business environment arose. This concern expanded during the industrial revolution when the workers claimed for better working conditions, shorter work journeys and more equitable salaries. From then on, it is evidenced that the workforce required to produce is moved by a man through feelings and personal achievements, and that the emotional state can cause serious aggravating in the production.

In the 50s, in England, Eric Trist and his team developed a technical approach of the work organization, aiming to satisfy the worker in his workplace. However, only in the decade of 60 emphases was given programs of quality of life at work, such as researches to diagnose better

ways of work performance, and also on the workers' health and welfare (França Júnior & Pilatti, 2004).

After that, quality of work life becomes the object of research in several countries. In Brazil, according to Ayres et al. (2004), special attention concerning this area only began in the 80s.

The pressure for better results, the financial dissatisfaction and the stress from the workplace cause reduction in the productivity of employees in business environment. It is in this perspective that the company must provide activities that, in contrast to these factors, will provide better welfare for its employees, compensating their efforts for the company's production.

Nowadays business point of view postulates that the companies' real differential is the human resources rather than the technology employed. Technology is essential, but the differential factor that determinates the success is the intellectual capital (Cavalcanti, 2001 as cited in França Júnior & Pilatti, 2004) the technology, basically, make companies equal; it is the personnel that make the difference. And the new economy requires a new way of management, both human resources and technology management. Not that hierarchical company anymore, one where the leader is the ruler and subordinate listen and obey. But a company that values creativity and idea sharing, one that learns from its employees, partners and customers.

Starting from this perspective, it can be stated that a projection of the market in the future promises to focus more on the developer inside the company, with the purpose of propitiating him the best work conditions possible, so that he can render his best performance, and develop the best of his potential.

3. Leisure activities

According to Elias and Dunning (1986), leisure is defined as an activity freely practiced with no wages involved, and which brings a pleasant and delightful sensation to the one who practices it. Following Elias and Dunning's distinction of leisure and free time, to better specify, it is possible to mention leisure as "culture, comprehended in its broader sense, experienced or practiced in the available time" (Marcelino, 1990 as cited in Reis & Soares, 2006).

The denomination "leisure" has been used for very long already, and along the centuries, it has presented distinct conceptions, varying not only according to time, but indeed from society to society, being characterized in each situation with its respective particularities. Such particularities, with proper changes, are adjusted and provide the conception of leisure in nowadays society.

The full meaning of leisure is not limited to only using free time, but it is also related to the achievement of human being aspirations. In this sense, it is possible to state that leisure practices are not only rituals of pauses before returning to practical life or work, but yet they should exist with roots that plunge in historical-anthropological deepness, which refers to human being in his nature, keeping knowledge production, discussion and systematizing as a central axle. In fact, our social context, impregnated by violence, exclusion, unemployment and prejudices, has put aside all and every possibility of experiencing leisure practices in its fullness (França & Cavalcanti, 2002).

It is important to highlight that physical and mental health are inseparable, and the connection between body and mind enable an experience of leisure to tie both areas. Thus, the physical health becomes the primary dimension to lead to a healthy lifestyle (Henderson & Bialeschki, 2005).

Following this line of reasoning, Almeida and Gutierrez (2005), see leisure as a way of relieving the tension caused by the contemporary life style, making it an essential component to live in society. Participation in leisure activities is characterized by the freedom of body expression, as stated by Henderson and Bialeschki (2005, p.357):

> The meanings of participation in any leisure activity either individually, within a family, in the community, or on vacation includes enjoyment and a sense of relative freedom. People are often not aware of the outcomes of their involvement except in "feeling good," which might emanate from physical, mental, social, spiritual, or aesthetic outcomes.

It is understood that the quest for leisure in different societies is characterized by limiting factors imposed by society itself. Such factors explain the different habits of leisure practice. In ancient times, the Roman and Greek people would base their leisure activities in competitions and games. The nobler classes would behave as viewers of competitions between fighters or gladiators that would battle till death. Nowadays, some features of that culture still remains, even if in terms of a less devastating version, such as cockfighting and bullfighting (Sturion & Cabral, 2007).

In that time, leisure was part of only the privileged minority of society that would have high acquisitive power. This situation is maintained for centuries, till a remarkable fact starts a revolution, not only technological, but also cultural.

During the industrial revolution period, the long and exhausting work journeys forced workers to claim for better work conditions, exposing this way the need for practicing activities with leisure character (Pilatti, 2007).

In Brazil the observation that human needed to practice leisure activities occurred during the period when Getúlio Vargas was President. However, broader accessibility to those activities was concretized only in the governing of Juscelino Kubitschek. High and medium classes would

occupy their free time with theater plays, musical presentations and sport clubs, whereas the worker class would search for entertainment through sports practice in public spaces, circus and festive commemorations. This way, leisure starts to be part of the workers' and medium class' quotidian (Almeida, 2005).

In modern society, leisure presents itself as an option to break the routine, where man searches eagerly to transform the result of his hard work into something that may bring him pleasant compensations (Sturion & Cabral, 2007).

In this context, just a small part of the population presents conditions to enjoy leisure activities due to the accessibility of an appropriate place, available time and congruous monetary situation. In summary to this statement, Eijck and Mommas (2004, p.373-374) says that:

> Those individuals with high income and education differentiated themselves from those low on income and education by more refined, more complex, and more prestigious forms of leisure participation especially found in the public sector.

In the capitalist production system, the human being is seen solely as an agent of production, excluding up his personal characteristics, as feelings, desires and needs. This fact caused, and continues to cause, a deep social transformation in society life style (Almeida & Gutierrez, 2005).

Nowadays, leisure can be perceived as a way to make the most of free time from labour activities, to compensate the stress and concerns from the working environment, so that such activities provide a sense of achievement and personal pleasure.

4. Free time and time available

In a wrong way, free time activities and leisure activities are said as synonyms. However, they are different concepts. It can be considered free time the one originated from freedom

regarding work occupation. Not all the time not devoted to work can be devoted to leisure. Only part of free time is dedicated to leisure activities (Elias & Dunning, 1986).

A better classification of the aspect time was elaborated by Gebara (1994), who affirms that free time is an individual time, while the available time is considered as a social one. Regarding the entertainment, time is used on the dimension of available time.

In this context, is shown that not all free time can be considered leisure, but all leisure activities are activities during free time. Elias and Dunning (1986) classify the activities of free time in five distinct categories: private work and familiar administration; rest; dismissing of biological needs; sociability; mimetic or game activities. The activities belonging in each of these categories may or may not fit as leisure activities:

- Private work and familiar administration: includes the family's activities and the house's provision, such as orientation to the children, familiar strategy, financial transaction and plans for the future. Since these tasks needs to be done, in a pleasure way or not, can hardly be termed as leisure activities.
- Rest: belong to the activities where there is nothing in particular to do, the daydreams, trivia, such as smoking, handcrafting or, even, taking a nap. Although it differs from the others, these activities can also be considered as leisure activities.
- Dismissing of biological needs: involves all biological needs provided to our body, such as feeding, doing body care, making love and sleep. Such activities are subject to the usual routine, but can accentuate certain pleasure, to produce some kind of satisfaction in a routine way, for example, to have lunch out of home. Moreover, some of these activities radiate, especially for the sociability category.

- Sociability: It is not a work, however, it involves activities work related, like visiting friends or hanging out with an excursion, and it also involves activities not work related, as going to a bar, club, restaurant or party, in the presence of the other people.
- Mimetic or game activities: belong to leisure activities such as sports practice, watching TV, Movie Theater, fishing, or dancing. Such activities present a leisure character, provided either by the participation as an actor or as a spectator, since those do not characterize professional activities in particular.

Based on this classification, it is evidenced that an indicator which can distinguish the pleasure from free time is the routine level – or routine break – which may, this way, provide pleasure in activities that characterize pleasure, making understood the idea that the satisfaction offered by leisure activities tends to be considered as a means of allowing the relief from tension and to improve the capabilities of people (Elias & Dunning, 1986).

5. The proposed instrument

From the categories of free time presented by Elias and Dunning (1986) and based on the instrument of evaluation of quality of life of World Health Organization (WHOQOL), the instrument developed in this study is compost by 75 questions. Of these questions, 5 are used to understand the sample's profile, and 70 are divided in three major spheres: physiological, psychological and sociological. These spheres are composed by aspects, and inside these aspects the questions were distributed. The answers to these questions are based on the Likert's scale.

The questions to understand the sample's profile are disposed at the beginning of the questionnaire, and refer to: age, gender, family, monthly income, marital status and education. But the questions of the physiological, psychological and sociological spheres are interspersed

among themselves within the questionnaire. The distribution of the pertaining questions to each spheres and aspects are this way disposed:

- Physiological sphere:

TABLE 1 Aspects and questions of the physiological sphere

1	Energy and fatigue	Q4.7	21	How easily do you get tired?
		Q4.8	22	How bothered do you feel by fatigue?
		Q5.6	31	How exhausting – in the physical and emotional point of view – Do you consider your professional activities and daily life?
2	Sleep and rest	Q2.1	8	Do you have any difficulty regarding the sleeping time?
		Q4.2	16	How satisfactory is your time to rest? (not doing anything in particular)

- Psychological sphere:

TABLE 2 Aspects and questions of the psychological sphere

3	Positive feelings	Q6.1	33	How much do you experiment positive feelings in your life?
		Q3	11	How satisfied are you with your leisure time?
		Q4	14	How satisfied are you with your free time? (time left after sleeping and professional work)
		Q8.8	56	How much do you like the place where you live?
		Q8.9	57	To what extent the characteristics of your home match your needs?
		Q9	60	How satisfied are you with your quality of life?
		Q10	61	How satisfied are you with your life?
		Q11	62	How satisfied are you with your health?
		Q2	7	How satisfied are you with your sleeping time?
4	Evaluation of life situations	Q4.4	18	How do you evaluate your involvement with your private work activities and familiar administration?
		Q4.6	20	How would you evaluate your involvement with the sociability activities?
		Q4.10	24	How would you evaluate your involvement with physical and/or sportive activities of leisure?
		Q6	32	How would you classify your life?
		Q5.2	27	How would you classify the time from home to work and/or other activities?
		Q6.4	36	In what measure do you evaluate the routine level in your life?
		Q8	48	How would you classify your quality of life?
		Q5	25	How would you classify your life pace?
5	Self-esteem	Q1	1	Do you care about your health?
		Q1.1	2	How important is it for you the sleeping time?
		Q1.2	3	How important is it for you the time to rest? (not doing anything in particular)
		Q1.3	4	How important is it for you a leisure time?
6	Indepen-dence	Q8.3	51	To what extent your quality of life depends on the use of medicines or medical help?
		Q12	63	How satisfied are you with your capacities?

7	Negative feelings	Q2.3	10	How much a problem disturbs you while you sleep?
		Q5.4	29	How stressing would you consider your activities at your professional and daily life?
		Q5.5	30	How routinely do you consider your professional activities and daily life?
		Q6.5	37	How much do you miss the physics activities of emotional and motor satisfaction?
		Q6.6	38	How much do you miss leisure activities?
		Q6.7	39	Do you miss the activities that provide a breakdown on the routine?
		Q6.8	40	Do you miss activities that provide a motor and emotional satisfaction?
		Q6.9	41	Do you miss activities that provide different experiences from those one in your daily life?
		Q6.10	42	Do you miss experiencing activities in which control and previsibility are not present?
		Q7.2	45	How worried are you the place regarding the place you live? (and/or work)
		Q7.3	46	Do the conditions in which you live cause depression and sad feelings?
		Q7.4	47	Do feelings of sadness and / or depression interfere in your day-by-day?
		Q8.6	54	How much do you care about your security?

- Sociological sphere:

TABLE 3 Aspects and questions of the sociological sphere

8	Work and daily life Activities	Q4.3	17	Do you get involved with private tasks and familiar administration? (familiar routine, house provision)
		Q15	66	How satisfied are you with the work conditions?
9	Life pace	Q1.4	5	Do you have available time to enjoy your life?
		Q4.1	15	How much do you take advantage of your free time?
		Q8.1	49	To what extent does your quality of life depend on the pace of life you are inserted in?
		Q18	69	How satisfied are you with the way you use your free time?
10	Leisure activities and recreation	Q1.5	6	How much do you enjoy your life?
		Q3.1	12	Do you enjoy your leisure time?
		Q3.2	13	To what extent do you take opportunities to practice leisure activities?
		Q4.9	23	Do you enjoy physics and/or sportive activities of leisure?
		Q6.2	34	To what extent is leisure present in your life?
		Q6.3	35	To what extent are physical and motor activities of pleasure present in your life?
		Q8.10	58	To what extent do you have opportunities to practice recreational activities?
11	Social Relations	Q4.5	19	Do you get involved with sociable activities? (good relationship with neighbors, parents and professionals)
12	Environment	Q2.2	9	Do you have any problem with a satisfactory place to sleep?
		Q7	43	How do you classify the conditions where you live in?
		Q7.1	44	How healthy is your physical environment? (climate, noise, pollution, attractive)
		Q8.2	50	To what extent do you depend on the conditions where you live in?
		Q14	65	How satisfied are you with the conditions in the place where you live?

		Q19	70	How satisfied are you with your physical environment? (climate, noise, pollution, attractive)
13	Physic security and protection	Q8.4	52	How secure do you feel in your daily life?
		Q8.5	53	Do you think that you live in a secure place?
		Q13	64	How satisfy you are with your security?
14	Financial Resources	Q8.7	55	How comfortable is the place where you live?
		Q17	68	How satisfy you are with your financial situation?
15	Transport	Q5.1	26	To what extent you have problems with the means of transport?
		Q5.3	28	How much the means of transport make your life difficult?
		8.11	59	To what extent you have appropriate means of transport?
		Q16	67	How satisfy you are with the means of transport conditions?

6. Methodology

The present research of applied nature had as purpose to construct an instrument to evaluate quality of life based on leisure from the categories of Norbert Elias' theory of leisure, following the WHOQOL models and focusing on three major spheres: physiological, psychological and sociological, having in mind the precept that human is a biopsychosocial being.

The Portuguese version of the WHOQOL is made available by Faculty of Medicine of University of Rio Grande do Sul / HCPA in the website http://www.ufrgs.br/psiq/whoqol1.html. The questions of WHOQOL are formulated to obtain a Likert-type response scale, with the following scales of intensity (nothing - extremely), capacity (nothing – completely), frequency (never – always) and evaluation (very unsatisfied – very satisfied; very bad – very good).

Based on the empirical material researched, the following procedures are adopted, which are the same from the original instrument. The procedures, according to the WHOQOL group, are:

- Definition of anchor words for each scale (intensity, capacity, frequency and evaluation)**.**
- Selection of 15 words with intermediate meanings between the two anchor points through dictionaries, literature and many other psychometric instruments. (For instance: intensity

scale: anchor 0% = nothing; anchor 100% = extremely; selected words: almost nothing, slightly, little, neither more nor less, moderately, reasonably and so on)

- Confection of a visual analogical scale of 100 mm for each selected word.
- Application of the scales in 20 representative individuals of the population acting in the industrial sector, related to leisure.
- Selection of words that had average between 20 – 30 mm (25%), between 45 – 55 mm (50%) and between 70 – 80 mm (75%). If more than one word obtained an average between the tracks above, it is selected the one with the lowest standard deviation.
- Verification of the ordinal characteristic of the scale in 10 individuals that order the random words between two anchor words.

6.1 Pilot application of the instrument

The instrument developed from the three facets of leisure (physiological, sociological and psychological) determined by the theoretical model from Norbert Elias, was tested from the application and re-test in 26 employees of a multinational industry in Ponta Grossa city, which ensured the universe of this sample.

The plan of these data analysis was the examination of construct validity of the facets and proposed dominion, to select the best questions for each facet and to establish the internal consciousness and discriminant validity of the instrument.

Thus, the present study was accomplished in a multinational chemical industry, of European origin, midsize according to the classification of Federal Revenue. This company is a manufacturer and dealer of raw material for manufacturers of consuming goods.

Located Ponta Grossa city – PR, its manufacturing activities began in 1982. The company in question has 26 collaborators, from which 04 are women and 22, men. The personnel are this way distributed:

- Management: 01 General Director, 01 Administrative Financial / Manager, 01 Commercial Manager / Direction Representative, 01 Responsible for Personnel Department , 01 Foreign Trade Agent, 01 Driver and 02 Secretaries;
- Laboratory: 01 Production Manager and 01 laboratory assistant / coordinator of quality;
- Production: 04 Shift Supervisor, 01 Machine Operator Supervisor, 02 Machine Operators;
- Boiler: 01 Boiler Supervisor, 03 Boiler Operators;
- Warehouse: 02 Dispatch Supervisor and 01 Assistant;
- Maintenance: 01 Electro-mechanical Maintenance Supervisor and 01 Electro-electronics Maintenance Supervisor.

In the company researched, 8% of the employees are post – graduated, 15 % are graduated, 19% have technical course and 58% finished High School. The benefits for collaborators are: health insurance, basic alimentation help, PCMSO (medical control of occupational health program); PLR (participation in profits and results), according to the collective agreement of the Pharmaceutical and Chemical Industry Trade Union from *Paraná*. As for the security, the company has CIPA (Internal commission for accidents prevention), Emergency plan and PPRA (environmental hazardous prevention).

6.2 Validation of the instrument

The present instrument was validated having as base the Cronbach's test of consistency. Developed by Lee J. Cronbach in 1951, Cronbach's coefficient alpha is a statistical tool that evaluates the reliability through the internal consistency of a questionnaire that has been applied in a research. It is important that all the questionnaire respondents get inquired using the same measurement scale.

The Cronbach's alpha is obtained from the variance of the individual components and from the variance of the sum of each evaluated components, seeking to investigate possible relations between the items, trough the following equation:

$$\alpha = \left(\frac{K}{K-1}\right) * \left(1 - \frac{\sum_{i=1}^{k} S_i^2}{S_t^2}\right)$$

Where:

K – Number of items.

S_i^2 - Variance of each item.

S_t^2 - Total variance of the questionnaire.

Regarding the verification of the instrument consistency, it will be used as basis the Freitas and Rodrigues' (2005) classification, which suggest the following scale to the analysis of the Cronbach's coefficient alpha:

TABLE 4 Confiability scale (Freitas & Rodrigues, 2005)

Reliability	Too low	Low	Moderate	High	Too High
Value of α	$\alpha \leq 0{,}30$	$0{,}30 < \alpha \leq 0{,}60$	$0{,}60 < \alpha \leq 0{,}75$	$0{,}75 < \alpha \leq 0{,}90$	$\alpha > 0{,}90$

According to Gil (2002), each item must explore just one concept at a time, that is, the items must not be directly correlated. If the answers of an item are similar to another one, it is concluded that both can be related.

It is important to note that even being widely used in several areas of the knowledge, there is no consensus on its evaluation yet. Some literature consider satisfactory a research instrument that obtain α =0, 70 (Freitas, 2004).

7. Results and discussion

In its pilot application, the instrument proposed presented the Cronbach's coefficient alpha of α =0, 8032 value. In the re-test of the instrument, the value of the Cronbach's coefficient was α =0, 8357. Regarding the descriptive statistics for the set of questions, were analyzed: the average, standard deviation, coefficient of variation, maximum and minimum values and the range of each question. The following results were obtained:

TABLE 5 Descriptive Statistics

Questions	Average	Standard Deviation	Coefficient of Variation	Minimum Value	Maximum Value	Range
Q1	3,7	0,6	16,2	3,0	5,0	2,0
Q1.1	4,0	0,7	18,7	2,0	5,0	3,0
Q1.2	3,0	1,1	37,7	1,0	5,0	4,0
Q1.3	3,7	1,1	29,4	2,0	5,0	3,0
Q1.4	2,9	0,8	27,8	2,0	5,0	3,0
Q1.5	3,2	0,9	28,1	2,0	5,0	3,0
Q2	3,4	0,9	25,0	1,0	5,0	4,0
Q2.1	2,2	1,2	55,2	1,0	4,0	3,0
Q2.2	1,8	0,9	51,9	1,0	4,0	3,0
Q2.3	2,4	1,1	45,9	1,0	4,0	3,0
Q3	2,7	0,8	31,0	1,0	4,0	3,0
Q3.1	2,7	0,8	30,3	2,0	5,0	3,0
Q3.2	2,7	0,8	31,1	2,0	4,0	2,0
Q4	2,9	0,9	30,0	1,0	4,0	3,0

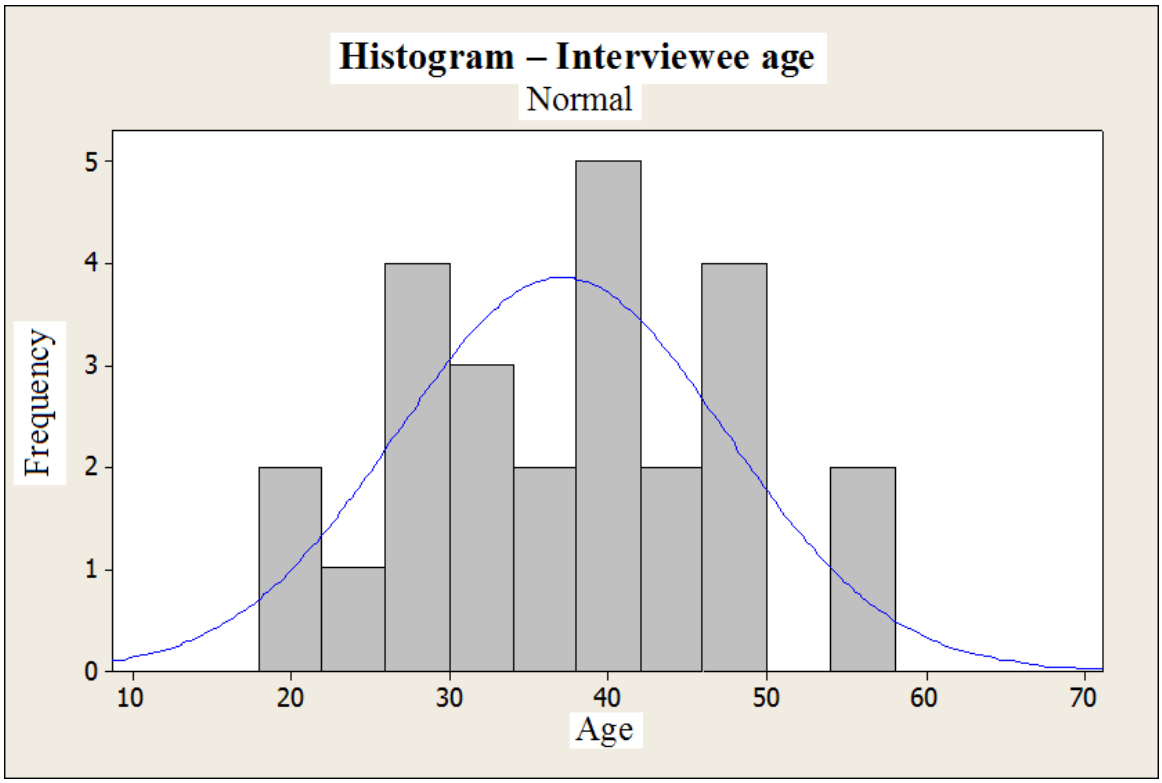
Q4.1	3,3	1,0	29,4	2,0	5,0	3,0
Q4.2	3,1	1,1	34,3	1,0	5,0	4,0
Q4.3	3,8	1,1	29,4	1,0	5,0	4,0
Q4.4	4,2	0,7	16,3	3,0	5,0	2,0
Q4.5	3,3	1,2	35,0	1,0	5,0	4,0
Q4.6	4,0	0,7	17,3	3,0	5,0	2,0
Q4.7	2,8	0,9	32,5	1,0	5,0	4,0
Q4.8	3,0	1,1	36,6	1,0	5,0	4,0
Q4.9	2,6	1,2	45,5	1,0	5,0	4,0
Q4.10	3,4	1,1	33,5	1,0	5,0	4,0
Q5	3,7	1,0	27,4	1,0	5,0	4,0
Q5.1	1,9	1,0	52,7	1,0	5,0	4,0
Q5.2	3,8	0,8	22,3	1,0	5,0	4,0
Q5.3	1,9	1,1	60,6	1,0	5,0	4,0
Q5.4	2,8	1,1	37,7	1,0	5,0	4,0
Q5.5	3,2	0,9	27,9	1,0	4,0	3,0
Q5.6	2,9	0,9	32,0	2,0	5,0	3,0
Q6	4,2	0,6	13,9	3,0	5,0	2,0
Q6.1	3,8	0,7	18,6	3,0	5,0	2,0
Q6.2	3,2	0,8	26,6	2,0	5,0	3,0
Q6.3	3,0	0,8	27,8	2,0	5,0	3,0
Q6.4	3,5	1,0	28,3	1,0	5,0	4,0
Q6.5	3,3	1,1	32,7	1,0	5,0	4,0
Q6.6	3,4	1,1	31,8	1,0	5,0	4,0
Q6.7	3,5	1,0	28,0	1,0	5,0	4,0
Q6.8	3,3	1,0	31,9	1,0	5,0	4,0
Q6.9	3,5	1,1	31,2	1,0	5,0	4,0
Q6.10	3,0	1,1	37,7	1,0	5,0	4,0
Q7	4,1	0,7	15,9	3,0	5,0	2,0
Q7.1	3,2	0,8	25,2	2,0	5,0	3,0
Q7.2	3,5	1,0	28,0	1,0	5,0	4,0
Q7.3	2,3	1,0	41,7	1,0	4,0	3,0
Q7.4	2,3	1,2	51,7	1,0	5,0	4,0
Q8	3,8	0,7	17,3	2,0	5,0	3,0
Q8.1	3,5	0,9	24,3	2,0	5,0	3,0
Q8.2	3,5	0,8	23,2	1,0	5,0	4,0
Q8.3	2,0	1,0	48,9	1,0	5,0	4,0
Q8.4	3,2	0,8	26,6	1,0	5,0	4,0
Q8.5	3,0	0,8	26,1	1,0	4,0	3,0
Q8.6	4,1	0,9	22,9	1,0	5,0	4,0
Q8.7	3,7	0,7	18,4	3,0	5,0	2,0
Q8.8	3,5	0,9	25,6	2,0	5,0	3,0
Q8.9	3,5	1,0	27,7	1,0	5,0	4,0
Q8.10	2,7	1,0	35,2	1,0	5,0	4,0
Q8.11	3,5	0,9	26,8	1,0	5,0	4,0
Q9	3,7	0,9	25,1	2,0	5,0	3,0

Q10	4,0	0,7	17,3	2,0	5,0	3,0
Q11	3,8	1,0	27,4	1,0	5,0	4,0
Q12	3,9	1,0	25,6	1,0	5,0	4,0
Q13	3,5	0,8	21,8	2,0	5,0	3,0
Q14	3,6	0,8	21,2	2,0	5,0	3,0
Q15	4,0	0,8	21,2	2,0	5,0	3,0
Q16	3,7	1,0	26,3	1,0	5,0	4,0
Q17	2,9	1,1	37,1	1,0	5,0	4,0
Q18	3,4	0,9	27,8	2,0	5,0	3,0
Q19	3,1	1,0	30,6	1,0	4,0	3,0

It is verified in the chart above, that only four questions presented an average punctuation higher or equal to 4,0, and three questions presented an average punctuation equal or lower than 2,0. Many questions obtained a very high amplitude (4, 0), in other words, the answers ranged from the worst to a better situation.

Regarding the subject "age", the respondent population presented the following distribution:

ILLUSTRATION 1 Histogram of the interviewees' variable age



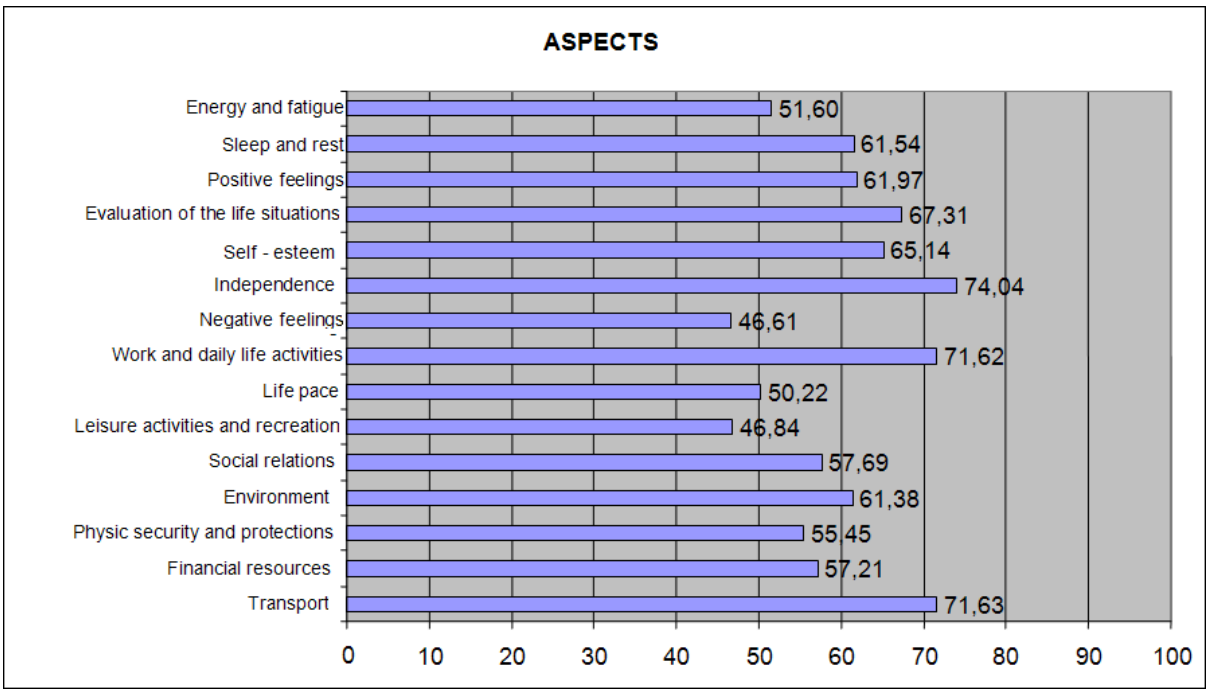
Based on Illustration 1, it is perceptible that the age of the interviewees oscillated from 20 to approximately 60 years. It is also possible to understand that the variable age is close to a normal distribution.

As for the evaluation of Quality of Life regarding leisure, this was carried out in two moments: focused on the aspects that compose each sphere, and focused on the spheres that compose the instrument as a whole.

When it comes to aspects, such scores was calculated obtaining simple arithmetic averages of each individual question, that then were converted in a scale from 0 to 100. In case the scale is inverted (the lower the average, the better the result), this value is subtracted from 100, making all the questions to present the same scale of measurement. Finally, it was carried out the simple arithmetic average of the questions that compose each aspect. This average is the value attributed to the aspect

According to the aspects the following results were obtained:

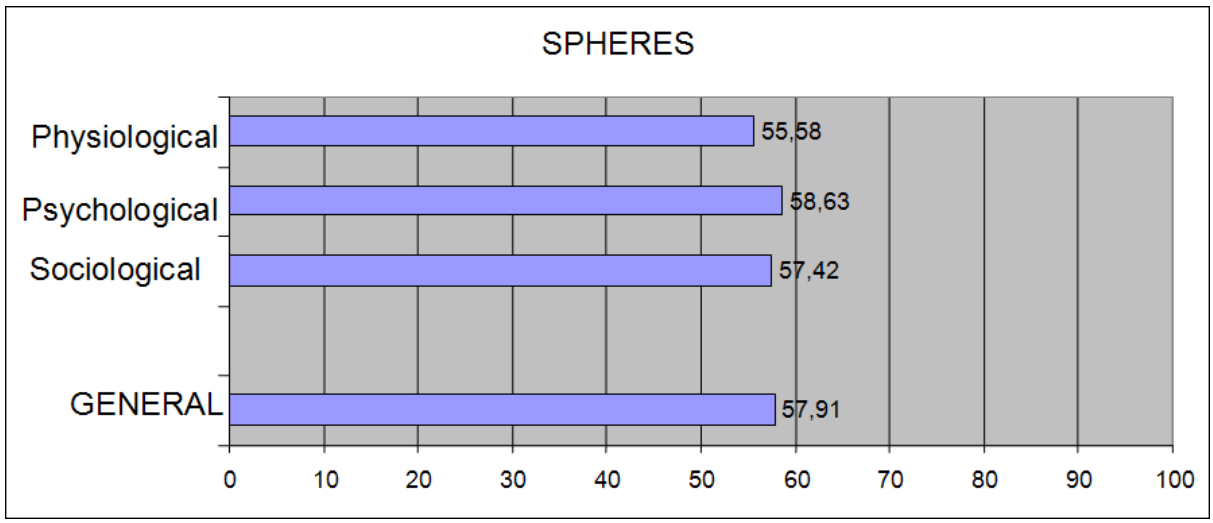
ILLUSTRATION 2 Quality of life aspects



It is possible to realize that "Negative Feelings" and "Leisure Activities and Recreation" present the worst averages, distancing considerably from the other aspects. On the other hand, the "Independence", "Transport" and "Work and Daily Life Activities" aspects presented the best average, sensibly distant from the other aspects.

Regarding the spheres, composted by the association of "n" aspects, the procedure used to attribute such punctuation was the same as the one used to attribute the value to the aspects, in other words, the simple arithmetic average of the questions that compose each sphere. Therefore, each question has the same importance, no matter the number of questions or aspects pertaining to each sphere. The same procedure was used to the global result of the instrument, where the values obtained in each sphere or aspect were not used in the global calculus, which result is the simple arithmetic average of all the questions instrument. This way, the following result was obtained:

ILLUSTRATION 3 Quality of Life Spheres



It is noticeable a proximity in the result of the three spheres. Consequently, none of them become significantly distant from the global result. The Quality of life evaluation based on leisure of the company, object of study, presented a level close to 58% of satisfaction. Although it is not possible to compare with other studies, it is possible to perceive a considerably high level of dissatisfaction (42%).

It is necessary to mention that, although there have been a considerable increase in workers' free time after the industrial revolution, only part of that time has been effectively converted into leisure activities. The participation of the knowledge society worker, either as an actor or spectator, in activities that characterizes routine break inserted in the categories of free time proposed by Elias and Dunning (private work and familiar administration; rest; dismissing the biological needs; sociability; mimetic or game activities), is becoming scarce.

This panorama reinforces the theory that leisure is always practiced during free time, but it is not necessarily filled with activities that characterize leisure (Elias & Dunning, 1986). In this

context, the perspective that the substitution of the workforce by machines would offer man more free time for the practice of leisure activities is shown to be mistaken.

8. Final considerations

The development of the LQOL-70 was based on the need for approaches corresponding to the life styles of the modern society. The theme examined – quality of life and, more specifically, the quality of work life – always had as north the common man, who works and lives at the Knowledge Society – that is in a permanent expansion.

The structure of the LQOL-70 - that measures the factor "Quality of Life" – has in its conception questions related to leisure activities and daily activities, that do not leave space for decisions regarding doing them or not – according to individual will.

The objective of validating a dominium that demands a short time to fill it out and with psychometrics satisfactory characteristics, adapted to WHOQOL-100, was obtained. The Cronbach's coefficient alpha of value α =0, 8032 reached on the test and of α =0, 8357 on the re-test allows to adduce that the instrument proposed presents a high inner consistency.

Therefore, based on the validation of the LQOL-70, it is possible to infer that the quality of life presents a too high proximity to the sociologic, psychological and physiological spheres. The dissatisfaction level, 42%, regarding it, verified in the application of the instrument, can be considered high. It is also perceptible that the aspect "Leisure Activities and Recreation" presented, conjointly with the "Negative Feelings" aspect, the worst scores, with a level higher than 53% of dissatisfaction. According Norbert Elias theory, something that can be explained by the reduction of free time.

For the data tabulation, result calculus and statistic analysis of the LQOL-70, a tool from the software Microsoft Excel was constructed. That tool carries out automatically all the calculus of score results of the spheres and aspects, besides carrying out the descriptive statistic of the questions, aspects and spheres of the instrument as well. This way, the LQOL-70 does not require the use of the SPSS syntax, proposed by the Group WHOQOL to calculate the results of the developed instruments.

Even if it is an instrument of quantitative base, its structure is thought in a way that also allows a qualitative analysis, even if it is not an objective present in the proposal.

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