

Conference Paper

Emotional Ecology and Quality of Life in University Students

Ecología emocional y calidad de vida en estudiantes universitarios

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X CONGRESO
INTERNACIONAL DE
CIENCIA TECNOLOGÍA
EMPRESARIAL E
INNOVACIÓN SECTEI 2023

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Published: 25 September 2024

Production and Hosting by
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Abstract

Emotional ecology (EE), or eco-emotions, influences the quality of life and contributes to improving human beings to be emotionally ecological. The mixed research approach, descriptive level, documentary and field type, non-experimental and transversal design, and methods applied included inductive, deductive, analytical, synthetic, and systemic. The study population consisted of the students enrolled in the marketing degree (700) and a sample of 248 students. The results obtained in the variable (EE) 4Rs model are: to reduce emotional pollutants; to recycle resources and emotions; to recover dormant or underused skills and abilities; and to repair emotional wounds. EE significantly influences the quality of life (GENCAT scale) in the following indicators: emotional well-being, interpersonal relationships, material well-being, personal development, physical well-being, self-determination, social inclusion, and rights. It is concluded that the variable quality of life (QoL) is acceptable—a general index of quality of life. The determining factors for young university students were self-determination, social inclusion, and emotional well-being. In the CV profile, the result was positive. EE is the art of sustainably managing our emotional world, with the 4Rs being the basic rules that serve for cognitive and affective enrichment, which increases QOL. They allow you to provide a solution to social, personal, and professional challenges and show how to identify and manage them. The 4Rs are a useful tool to prevent and confront crisis situations, both personal and collective, by increasing ecological awareness and learning to apply the principles of emotional sustainability in daily life.

Keywords: *emotional ecology, 4RS, quality of life, GENCAT scale.*

Resumen

La ecología emocional (EE) o eco-emociones influye en la calidad de vida, y contribuye a mejorar al ser humano a ser emocionalmente ecológico. El enfoque de investigación mixto, de nivel descriptivo, tipo documental y de campo, de diseño no experimental y transversal; los métodos aplicados incluyeron inductivo, deductivo analítico sintético y sistémico. La población de estudio fue los estudiantes matriculados en la carrera de Mercadotecnia (700) y la muestra de 248 estudiantes. Los resultados obtenidos en la variable (EE) modelo 4Rs:

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reducir los contaminantes emocionales, reciclar recursos y emociones; recuperar habilidades y capacidades adormecidas o infrautilizadas y reparar heridas emocionales. La EE influye significativamente en la calidad de vida (escala-GENCAT), en los indicadores: bienestar emocional, relaciones interpersonales, bienestar material, desarrollo personal, bienestar físico, autodeterminación, inclusión social y derechos. Se concluye, la variable calidad de vida (CV), índice general de calidad de vida, es aceptable, los factores determinantes en los jóvenes universitarios fueron: autodeterminación, inclusión social y bienestar emocional. El perfil de CV, el resultado fue positivo. La EE es el arte de gestionar de forma sostenible nuestro mundo emocional, siendo las 4Rs las reglas básicas que sirven para el enriquecimiento cognitivo y afectivo, que incrementa la CV; permiten dar una solución a los retos sociales, personales y profesionales, y se muestra, ¿cómo identificarlos y gestionarlos? Las 4Rs es una herramienta útil para prevenir y enfrentarse a situaciones de crisis tanto personales como colectivas, al incrementar la conciencia ecológica y aprender a aplicar los principios de sostenibilidad emocional en la vida cotidiana.

Palabras Clave: *ecología emocional, 4RS, calidad de vida, escala GENCAT.*

1. Introduction

Emotional ecology (EE) is the art of sustainably managing our emotions in a way that enriches cognitive and affective processes in order to increase emotional quality, improve relationships, and improve the environment in which we live [1]. The emotional ecology is formed with constant training; it allows one to motivate oneself, improve the quality of emotional life, and seek perfection in the human being. “All the energy that is not directed toward creating becomes destructive energy; in this way, we choose to be part of the problem or part of the solution” [2].

As mentioned previously, emotional ecology is a model that requires training, daily practice, and emotional education in humans. The 4Rs provide solutions to social problems since their theory explains how to achieve internal balance and properly manage our emotional resources. We analyze each of the 4Rs of emotional ecology, as well as various elements that allow human beings to live (enjoy and suffer), and expose the risks of being managed in an unbalanced way, proposing a balance between mind, emotion, and action [3]. Negative emotions affect our society and are present in all ecosystems: family, social, education, health, and in organizations. “The human being is in constant improvement and evolution since he has the resources and capabilities to manage his emotional world in an adaptive, sustainable, and ecological way” [1].

Emotional sustainability is the philosophy that governs emotional ecology. This means being responsible for us and co-responsible with the world. Emotional sustainability consists of reducing the toxic level, reusing, and recycling abilities and skills, and repairing emotional wounds to achieve harmony and balance in the human being. To have an emotionally sustainable life, it is necessary to work on the 4Rs. These



are reducing emotional pollutants, recycling resources and emotions, and recovering dormant or underused skills and abilities. Finally, repair emotional wounds to generate a positive personal image in family, in social relationships, at work, and in health. [1].

1.1. Emotional Ecology

Emotional ecology is based on the construction of the emotional climate in human beings in different areas, such as work, human relationships, interaction, and communication. That individual who knows how to manage, control, and identify her emotions with the 4Rs: reduce, recycle, recover, and repair. This individual will improve their emotional health, personal and social well-being, and consequently their quality of life and environment.

1.2. The 4Rs

The 4Rs first allow us to reduce the emotional pollutants found in the environment, such as the language with which people interact. Thus, internal language is the self-talk that “tells itself.” In this way, verbal thought can modify behavior. Let’s also avoid surrounding ourselves with toxic people, because they directly and negatively affect our behavior due to their egocentric and narcissistic personalities, and thus also reduce stress, dependency, and chaos. [4]. Secondly, it is necessary to recycle positive emotional resources such as the abilities and skills to relate to others [4]. We are all born with some capacities or emotional resources that develop over time. Many times, these capabilities are there, and without realizing it, we have these resources [5]. In addition, they are also related to the dialogue that one maintains in the development of daily activities [6]. Thirdly, it is necessary to recover the skills and abilities that each person possesses. These can be knowledge and acceptance of oneself, what we have been and value but that at some point we lost, creativity, hidden affection, tenderness, calm, the good, beautiful, wise, and valuable that we have stopped seeing. The capacity for admiration and surprise, the script, and the direction of our lives Finally, repair emotional wounds that produce a baggage of negative emotions that affect health and our environment.

The 4Rs are a therapeutic representation supported by psychological processes, and that brings personal benefits with the effects of improving social and emotional life in interpersonal relationships [7]. The 4Rs allow us to manage emotions in a sustainable way and improve our quality of life.



1.3. Quality of life.

The GENCAT model explains the concept of quality of life from three points of analysis. First, it is a framework for service delivery studies; second, it is a practical diagnosis based on evidence; and third, it is a means to develop strategies to improve quality of life. [8-10]. The GENCAT Scale is a multidimensional model with eight dimensions that constitute the concept of quality of life. These are “a set of factors that make up personal well-being.” Its indicators are perceptions, behaviors, or specific conditions in the quality-of-life dimensions that reflect a person’s well-being (p. 34). Next, the eight quality of life indicators of the GENCAT model are defined.

Emotional well-being (BE): is feeling calm, safe, and without stress or nervousness. The indicators that are evaluated are satisfaction, self-concept, and the absence of stress or negative feelings.

Interpersonal relations (RI): it is relating to different people, having friends, and getting along with people (neighbors, colleagues, and others). The indicators that are evaluated are: social relationships, friends, family relationships, positive and rewarding social contacts, couple relationships, and sexuality.

Material well-being (BM) is having enough money to buy “what is needed and desired,” such as a home and an adequate workplace. The indicators that are evaluated are: housing, workplace, salary (pension, income), possessions (material goods), savings (or possibility of accessing whims).

Personal development (PD): is the possibility of learning skills and abilities, having knowledge, and experiencing personal fulfillment. The indicators considered are limitations and capabilities, access to new technologies, learning opportunities, skills related to work (or other activities), and functional skills (personal competence, adaptive behavior, and communication).

Physical well-being (BF): is having good health, feeling in good physical shape, and having healthy eating habits. The indicators that are evaluated are: health care, sleep, health and its alterations, activities of daily living, access to health, and food.

Self-determination (AU): it is deciding for yourself; it is the opportunity to choose things, such as how you want your life to be, your work, your free time, the place where you live, and the people you interact with. The indicators that are evaluated are: personal goals and preferences; decisions; autonomy; and choices.

Social inclusion (SI): is participating in social activities, feeling like a member of society, feeling integrated, and having the support of other people. The indicators that are evaluated are: integration, participation, accessibility, and support.



Rights (DE): equal rights, treatment, respect for their way of being, opinions, desires, privacy. The indicators that are evaluated are: privacy, respect, knowledge, and exercise of rights.

Tabla 1

Variables, indicators, and authors that support the applied models.

Variable 1: emotional ecology. 4Rs Model	Authors
Reduce environmental pollutants on emotions	
toxic people	[11]; [12]
inner language	[4]
Recycle emotional resources	
emotional resources	[5]
Motivating internal dialogue phrases	[6]
Recover skills and abilities	
Skills: an individual has them to perform a certain action; these are: - visuals - linguistic - motor - artistic - social - logic - math	[13]
Capacities are the abilities that a person shows to carry out a certain activity, at work or in any entrusted errand. The following points must be considered: Empathy. Effective communication. Develop creativity. Be happy. Organize well. Learn continuously. Get out of the comfort zone.	[14]
Repair emotional wounds	
Forgive	[7]
Variable 2: quality of life GENCAT Scale Model.	Autores
Emotional well-being: satisfaction, self-concept, stress.	[15][16][17][18][19][20][21][22][23][24][25]
Interpersonal relationships: social, family, personal relationships, couple and sexuality.	
Material well-being: housing, workplace, salary, possessions, savings.	
Personal development: limitations/abilities, access to new technologies, learning opportunities, work-related skills and functional skills.	
Physical well-being: health care for illnesses, sleep and rest, daily activities, access to health and food.	
Self-determination: personal goals and preferences, decision making, autonomy and choices.	
Social inclusion: integration, participation, accessibility, and support.	
Rights: privacy, respect, knowledge, and exercise of rights.	

Source: compilation of various authors.

The objective of the research was to apply the 4Rs model and the GENCAT model in order to interpret the study variables: emotional ecology and quality of life. In addition, the quality-of-life profile and quality index were evaluated.



2. Materials and methods.

The research had a mixed approach, a descriptive research level of documentary and field type, and a non-experimental and transversal design. The methods applied were inductive, deductive, analytical, synthetic, and systemic for drawing conclusions. The study variables were emotional ecology and quality of life, each with its own application model. The study population was 700 students of the Marketing degree from the Faculty of Business Administration of the Higher Polytechnic School of Chimborazo. The sample of 248 students enrolled in this career has a 5% margin of error and a 95% confidence level.

For the emotional ecology variable, the “4Rs model” was applied with 11 items distributed in 4 indicators. (1) reduce emotional pollutants; (2) recycle positive emotional resources; (3) recover skills and abilities; and (4) repair emotional wounds. For the second quality of life variable, the “GENCAT model” was applied, which evaluated 69 items distributed in eight indicators. (1) emotional well-being; (2) interpersonal relationships; (3) material well-being; (4) personal development; (5) physical well-being; (6) self-determination; (7) social inclusion; and (8) rights.

The items are stated in the third person in a declarative format, with a Likert scale with four options. (1) never or almost never; (2) sometimes; (3) frequently; and (4) always or almost always.

The models used interpret and analyze the following indicators:

Emotional sustainability: is obtained from the standard scores of each one of the four 4Rs indicators.

Quality of life: obtained from standard scores of each of the eight GENCAT indicators Scale, which interprets the following quality of life indicators.

Quality of Life Profile: obtained from standard scores for each of the eight quality of life indicators.

Índice de Calidad de vida: obtained from the composite standard score calculated from eight indicators.

3. Direct scores.

To obtain the total direct score for each indicator, the responses (1-2-3-4) of each of the items that compose them are added, as shown in Tables 2 and 3 and in Table 4.



Tabla 2

Scores for variable 1. Emotional ecology.

No.	Emotional ecology.	Always or almost always	Frequently	Sometimes	Never or hardly ever
	Reduce environmental pollutants on emotions				
1	Identify contaminating people in your family.	1	2	3	4
2	Identify at least three toxic words a day.	1	2	3	4
3	Identify contaminating people at work.	1	2	3	4
	Recycle emotional resources.	Always or almost always	Frequently	Sometimes	Never or hardly ever
4	Recognize three positive emotional resources in yourself.	4	3	2	1
5	Recognize three important people in your life.	4	3	2	1
6	Remember three motivational phrases that you apply daily in your life.	4	3	2	1
	Recover skills and abilities.	Always or almost always	Frequently	Sometimes	Never or hardly ever
7	Remember three skills in which you develop efficiently.	4	3	2	1
8	Remember three capacities in which you develop efficiently.	4	3	2	1
9	Remember three emotional resources that you have.	4	3	2	1
	Repair emotional wounds.	Always or almost always	Frequently	Sometimes	Never or hardly ever
10	Forgive easily.	4	3	2	1
11	You are aware that negative emotions affect your health.	4	3	2	1

Source: GENCAT model



Tabla 3

scores for variable 2. GENCAT quality of life scale.

Emotional Wellbeing.		Always or almost always	Frequently	Sometimes	Never or hardly ever
1	You are satisfied with his present life.	4	3	2	1
2	You have symptoms of depression.	1	2	3	4
3	You are cheerful and in good spirits.	4	3	2	1
4	You Show feelings of inadequacy or insecurity.	1	2	3	4
5	Presents symptoms of anxiety.	1	2	3	4
6	You are satisfied with yourself.	4	3	2	1
7	You have behavioral problems.	1	2	3	4
8	You are motivated when carrying out some type of activity.	4	3	2	1
Relationships.		Always or almost always	Frequently	Sometimes	Never or hardly ever
9	You do activities that you like with other people.	4	3	2	1
10	You maintain the relationship you want with your family.	4	3	2	1
11	You complain about the lack of stable friends.	1	2	3	4
12	You don't value their friendships.	1	2	3	4
13	You express feeling devalued by your family.	1	2	3	4
14	You have difficulties starting a relationship.	1	2	3	4
15	You maintain a good relationship with your fellow students.	4	3	2	1
16	You express feeling loved by the people important to you.	4	3	2	1
17	Most people you interact with have a similar condition to yours.	1	2	3	4
18	You have a satisfying sex life.	4	3	2	1
Material Wellbeing.		Always or almost always	Frequently	Sometimes	Never or hardly ever
19	The place where you live prevents you from leading a healthy lifestyle (noise, humidity, odors, darkness, poor ventilation, damage, inaccessibility).	1	2	3	4
20	The place where you study complies with safety regulations.	4	3	2	1



Tabla 3

Continued.

Material Wellbeing.		Always or almost always	Frequently	Sometimes	Never or hardly ever
21	You have the material goods you need.	4	3	2	1
22	You are unhappy with where you live.	1	2	3	4
23	The place where he lives is clean.	4	3	2	1
24	You have the financial resources necessary to cover your basic needs.	4	3	2	1
25	Your income is insufficient to allow you to indulge your whims.	1	2	3	4
26	The place where you live is adapted to your needs.	4	3	2	1
Personal development		Always or almost always	Frequently	Sometimes	Never or hardly ever
27	You have difficulty adapting to situations that arise.	1	2	3	4
28	You have access to new technologies (internet, mobile phone, etc.)	4	3	2	1
29	What you are studying allows you to learn new skills.	4	3	2	1
30	You have difficulty effectively solving the problems that arise.	1	2	3	4
31	You develop your studies competently and responsibly.	4	3	2	1
32	The service you go to takes into consideration your personal development and learning new skills.	4	3	2	1
33	You participate in the development of your individual program.	4	3	2	1
34	You are unmotivated in your studies.	1	2	3	4
Physical well-being		Always or almost always	Frequently	Sometimes	Never or hardly ever
35	You have sleep problems.	1	2	3	4
36	You have professional help if you need it.	4	3	2	1
37	Your eating habits are healthy.	4	3	2	1
38	Your state of health allows you to carry out normal activity.	4	3	2	1
39	You have good personal hygiene.	4	3	2	1
40	In the service you go to, the medication you take is monitored.	4	3	2	1



Tabla 3

Continued.

Physical well-being		Always or almost always	Frequently	Sometimes	Never or hardly ever
41	Your health problems cause you pain and discomfort.	1	2	3	4
42	You have difficulty accessing health care resources (preventive, general, home, hospital care, etc.)	1	2	3	4
Self-determination		Always or almost always	Frequently	Sometimes	Never or hardly ever
43	You have goals, objectives and personal interests.	4	3	2	1
44	You choose how to spend your free time.	4	3	2	1
45	The educational service you go to takes your preferences into account.	4	3	2	1
46	Define your ideas and opinions.	4	3	2	1
47	Other people decide about your personal life.	1	2	3	4
48	Other people decide how to spend your money.	1	2	3	4
49	Other people decide what time you go to bed.	1	2	3	4
50	You organize your own life.	4	3	2	1
51	You choose who to live with.	4	3	2	1
Social Inclusion.		Always or almost always	Frequently	Sometimes	Never or hardly ever
52	You use community environments (public swimming pools, cinemas, theaters, libraries,).	4	3	2	1
53	Your family supports you when you need it	4	3	2	1
54	There are physical, cultural or social barriers that hinder your social inclusion.	1	2	3	4
55	You lack the necessary support to actively participate in the life of your community.	1	2	3	4
56	Your friends support you when you need it.	4	3	2	1
57	The establishment you go to encourages your participation in different activities in the community.	4	3	2	1



Tabla 3

Continued.

Social Inclusion.		Always or almost always	Frequently	Sometimes	Never or hardly ever
58	Your friends are limited to the circle of the establishment that you attend.	1	2	3	4
59	You are rejected or discriminated against by others.	1	2	3	4
Derechos		Always or almost always	Frequently	Sometimes	Never or hardly ever
60	Your family violates your privacy (read your correspondence, enter without knocking on the door..).	1	2	3	4
61	In your environment you are treated with respect.	4	3	2	1
62	You have information about your fundamental rights as a citizen.	4	3	2	1
63	You have difficulties defending your rights when they are violated.	1	2	3	4
64	In the establishment you go to, your privacy is respected.	4	3	2	1
65	In the establishment you go to, your possessions and right to property are respected.	4	3	2	1
66	You have limited legal rights (citizenship, voting, legal processes, respect for your beliefs, values, etc.).	1	2	3	4
67	In the establishment you go to, your rights are respected and defended (confidentiality, information on your rights as a user..).	4	3	2	1
68	In the establishment you go to, the privacy of information is respected.	4	3	2	1
69	You suffer situations of exploitation, violence or abuse.	1	2	3	4

Source: GENCAT model. [26].

Table 4 shows an example of how the scores made by participants who are recorded in Tables 2 and 3 of variable scores are calculated. People circle their answers in red. As seen in Table 3, the recorded scores are added, and the result in the emotional well-being dimension is a total of 16 points. Then, the totals of each indicator are recorded in Table 4. Section 1. GENCAT life scale (total direct scores): here the summary of scores for each indicator is recorded, and the same will be done with the rest of the indicators.

Table 5 shows the summary score record. This registry allows standard scores and percentiles to be determined according to the calculation format of the GENCAT model,



Tabla 4

Example of calculating the total direct score of the emotional well-being indicator, according to the model.

BIENESTAR EMOCIONAL		Always or almost always	Frequently	Sometimes	Never or hardly ever
1	You are satisfied with your current life.	4	3	2	1
2	You have symptoms of depression.	1	2	3	4
3	You feel happy and in a good mood.	4	3	2	1
4	You have feelings of inadequacy or insecurity.	1	2	3	4
5	You have anxiety symptoms.	1	2	3	4
6	You are satisfied with yourself.	4	3	2	1
7	You have behavioral problems.	1	2	3	4
8	You are motivated when doing some type of activity.	4	3	2	1
Puntuación directa Total				16	

Source: GENCAT Model. [26].

Tabla 5

Example of recording total direct scores in the score summary table.

Section 1a. GENCAT Quality of Life Scale. 1. Enter the total direct scores for each of the dimensions. 2. Enter standard scores and percentiles. 3. Enter the Quality-of-Life index.

Quality of life dimensions	Total scores direct	Standard scores	Percentiles of dimensions
Emotional well-being	16		
Relationships	25		
Material well-being	30		
Personal development	14		
physical well-being	27		
Self-determination	9		
Social inclusion	20		
Rights	35		
TOTAL standard score (sum)			
QUALITY OF LIFE INDEX (Composite standard score)			
Quality of Life Index Percentile			

Source: GENCAT model. [26].

which facilitates the analysis of the profile and the quality-of-life index. In the same way, we proceeded with the emotional ecology variable.



PE: establishes the relative position of a person within their typing sample. The mean is 10, and the standard deviation is 3. With standard scores ($M = 10$; $SD = 3$) of each dimension of quality of life, percentiles, and quality of life index.

Percentiles: indicate the percentage of people who have a higher or lower score.

This test considers the importance of demographic data, which is evident in Table IV, considering that university students have an average age of 18 to 24 years. It is also important that the interviewer indicate the date on which the test was carried out and the demographic information of the student evaluated (name and surname, sex, age, address, telephone number). Also the interviewer (name, job title, agency or affiliation, address, email, and telephone number).

Tabla 6

Demographic data.

Names:			Day	Month	Year
Surnames:		Application date			
Sex:	Male <input type="checkbox"/> Female <input type="checkbox"/>	Birthdate			
Identity:	White <input type="checkbox"/> Black <input type="checkbox"/> Mexican <input type="checkbox"/> Indigenous <input type="checkbox"/> others <input type="checkbox"/>	Semester/PAO:			
Location:	Urban <input type="checkbox"/> Rural <input type="checkbox"/>		Years	Months	Days
Phone:		Age			
Language:					
Interviewer:		Affiliation: ESPOCH-FADE-MERCADOTECNIA			

The standard error of the mean (SEM) it serves as a complement to the internal consistency coefficients. It represents the standard deviation of the mean errors, indicating the error band that surrounds the direct scores. Knowing these errors, it is possible to determine, from the scores obtained on the scale, the range of scores in which the individual's real score lies. Thus, the smaller the error, the more confidence can be had in the scores that an individual obtains on the test. In the GENCAT scale, the standard mean errors associated with each dimension do not reach excessive magnitude, which results in the measurement precision of the instrument.

Discriminant validity. - It was determined by comparing, for each pair of latent variables, the average variance extracted and the coefficient of determination. Of the 28 comparisons carried out, in 21 the value of the average variance extracted exceeds the corresponding coefficient of determination. This provides evidence of discriminant validity since each latent construct must explain the measures that comprise it better than those corresponding to any other construct in the model. In this sense, the greatest



problems of discriminant validity are found between interpersonal relations and social inclusion on the one hand and personal development and social inclusion on the other.

Nomological validity. - The highest coefficient ($r = 0.93$) is observed between interpersonal relations and social inclusion, followed by self-determination with rights ($r = 0.82$). Interpersonal relationships are associated with emotional well-being ($r = 0.77$); social inclusion is associated with personal rights ($r = 0.77$); and self-determination is associated with personal development ($r = 0.75$). The lowest coefficients are observed between material well-being and self-determination ($r = 0.07$), self-determination and physical well-being ($r = 0.24$), personal development and material well-being ($r = 0.25$), and rights and emotional well-being ($r = 0.29$). These correlations are the results of other research providing evidence, and there is no more logical validity to this scale.

Construct validity. - The GENCAT model aims to verify whether the collected data reflect the eight-factor structure of the quality-of-life model proposed by Schalock and Verdugo (2003). A confirmatory factor analysis was performed using the DWLS (diagonalized weighted least squares) estimation method on the covariance and asymptotic covariance matrix. As indicator variables for each of the eight factors, four plots were used for each of them, consisting of the measurement of the corresponding items selected randomly, for a total of 32 plots at a rate of four per dimension factor.

Convergent Validity. - To determine the convergent validity of the scale, the standardized factor saturations, the exact mean variance extracted, and the composite reliability were considered. 81.3% of the factor saturations exceeded the value of 0.50, and all of them were statistically significant with values of student's t greater than 2.58 ($p \leq 0.01$).

In conclusion, the results demonstrate the technical properties of the GENCAT scale. The results obtained allow us to conclude that the GENCAT scale is a valid and reliable instrument that serves to objectively measure the objectives set for quality of life.

4. Results and discussion

The models 4Rs and GENCAT facilitated the application of the test, which was modified to the circumstances and situations of applicability in the study sample.



Tabla 7

Scores for variable 1. Emotional ecology.

No.	Emotional ecology	Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score	F Score	F Score	F Score	F Score	F Score		
Reduce environmental pollutants on emotions									
1	Identify contaminating people in your family.	1	76	2	43	3	86	4	43
2	Identify at least three toxic words a day.	1	84	2	44	3	98	4	22
3	Identify contaminating people at work.	1	79	2	86	3	72	4	11
Total 8 result out of 12 highest score = 67%									
Recycle emotional resources									
		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score	F Score	F Score	F Score	F Score	F Score	F Score	F Score
4	Recognize three positive emotional resources in yourself.	4	71	3	88	2	62	1	27
5	Recognize three important people in your life.	4	104	3	68	2	42	1	34
6	Remember three motivational phrases that you apply daily in your life.	4	63	3	92	2	77	1	16
Total 10 result out of 12 highest score = 83%									
Recover skills and abilities									
		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score	F Score	F Score	F Score	F Score	F Score	F Score	F Score
7	Remember three skills that you develop efficiently.	4	89	3	77	2	79	1	3
8	Remember three capacities that you develop efficiently.	4	62	3	95	2	72	1	19
9	Remember three emotional resources you have.	4	67	3	75	2	96	1	10
Total 9 result out of 12 highest score = 75%									
Repair emotional wounds									
		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score	F Score	F Score	F Score	F Score	F Score	F Score	F Score
10	Forgive easily.	4	46	3	72	2	85	1	45
11	You are aware that negative emotions affect your health.	4	97	3	85	2	72	1	6
Total 6 result out of 8 highest score = 75%									

Source: 248 students of the Marketing major - ESPOCH.



Tabla 8

Variable 2 scores. Quality of life.

Emotional Wellbeing		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score		F Score		F Score		F Score	
1	You are satisfied with his present life.	4	60	3	105	2	69	1	14
2	You have symptoms of depression.	1	18	2	41	3	67	4	122
3	You are cheerful and in good spirits.	4	83	3	97	2	38	1	30
4	You show feelings of inadequacy or insecurity.	1	27	2	43	3	60	4	118
5	You have symptoms of anxiety.	1	60	2	52	3	88	4	48
6	You are satisfied with yourself	4	102	3	87	2	34	1	25
7	You have behavioral problems.	1	70	2	67	3	86	4	25
8	You are motivated when carrying out some type of educational activity.	4	90	3	103	2	21	1	34
Relaciones Interpersonales		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score		F Score		F Score		F Score	
9	You do activities that you like with other people.	4	96	3	72	2	41	1	39
10	You maintain good relationships with your classmates.	4	65	3	77	2	85	1	21
11	You complain about the lack of Friends.	1	48	2	35	3	57	4	108
12	You don't value your friendships.	1	67	2	42	3	89	4	50
13	You express feeling valued by your Family.	1	52	2	68	3	37	4	91
14	You have difficulties starting a relationship.	1	57	2	93	3	48	4	50
15	You maintain a good relationship with your fellow students.	4	80	3	72	2	49	1	47
16	You feel loved by the people important to you.	4	48	3	77	2	68	1	55
17	Most people you interact with have a similar condition to yours.	1	99	2	63	3	48	4	38
18	You have a satisfying sex life.	4	75	3	82	2	69	1	22



Tabla 8

Continued.

Material Well-being		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score		F Score		F Score		F Score	
19	The place where you live prevents you from leading a healthy lifestyle (noise, smoke, odors, darkness, poor ventilation, damage, inaccessibility).	1	65	2	58	3	63	4	62
20	The place where you study complies with safety regulations.	4	107	3	80	2	32	1	29
21	You have the material goods that you need.	4	23	3	45	2	60	1	120
22	You are unhappy with where you live.	1	31	2	49	3	88	4	80
23	The place where you live is clean.	4	67	3	72	2	97	1	12
24	It has the financial resources necessary to cover your basic needs.	4	53	3	69	2	91	1	35
25	Your income is insufficient to access whims.	1	114	2	52	3	61	4	21
26	The place where you live is adapted to your needs.	4	82	3	87	2	67	1	12
Personal development		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score		F Score		F Score		F Score	
27	You have difficulty adapting to situations that arise.	1	48	2	54	3	112	4	34
28	You have access to new technologies (internet, mobile phone, etc.).	4	121	3	81	2	42	1	4
29	The career you are studying allows you to learn new skills.	4	93	3	78	2	52	1	24
30	You show difficulties in effectively solving the problems that arise.	1	72	2	98	3	55	4	23
31	You develop your studies in a competent and responsible manner.	4	81	3	77	2	61	1	29
32	The establishment of studies takes into consideration your personal development and learning new skills.	4	84	3	87	2	45	1	32
33	You participate in the development of your individual study program.	4	61	3	78	2	81	1	28
34	You are unmotivated in your studies.	1	26	2	72	3	42	4	108



Tabla 8

Continued.

Physical well-being		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score		F Score		F Score		F Score	
35	You have sleep problems.	1	47	2	56	3	75	4	70
36	You have professional help if you need it.	4	76	3	85	2	58	1	29
37	Your eating habits are healthy.	4	32	3	59	2	68	1	89
38	Your state of health allows you to carry out your activities normally.	4	88	3	73	2	97	1	10
39	You have good personal hygiene.	4	121	3	83	2	34	1	10
40	You go to a medical service.	4	65	3	58	2	98	1	27
41	Your health problems cause discomfort and lack of attention.	1	29	2	36	3	67	4	116
42	You have difficulty accessing health care resources (preventive, general, home, hospital care, etc.).	1	8	2	26	3	49	4	165
Self-determination		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score		F Score		F Score		F Score	
43	You have goals, objectives, and personal interests.	4	95	3	82	2	51	1	20
44	You choose how to spend your free time.	4	115	3	95	2	34	1	4
45	At ESPOCH your professional aspirations are considered.	4	124	3	78	2	33	1	13
46	You define your opinions and ideas.	4	65	3	83	2	96	1	4
47	Other people decide about your personal life.	1	23	2	54	3	71	4	100
48	Other people decide how to spend your money.	1	28	2	32	3	76	4	112
49	Other people decide what time you go to bed.	1	8	2	12	3	31	4	197
50	You organize your own life.	4	90	3	83	2	34	1	41
51	You choose who to live with.	4	87	3	95	2	40	1	26
Social Inclusion		Always or almost always		Frequently		Sometimes		Never or hardly ever	
		F Score		F Score		F Score		F Score	
52	You use community environments (public swimming pools, cinemas, theaters, libraries...)	4	112	3	81	2	43	1	12
53	Your family supports you when you need something.	4	97	3	86	2	63	1	2
54	There are physical, cultural or social barriers that hinder your social inclusion.	1	53	2	65	3	72	4	58



Tabla 8

Continued.

55	You lack the necessary supports to actively participate in community life.	1 25	2 34	3 63	4 126
56	Your friends support you when you need it.	4 87	3 73	2 89	1 1
57	ESPOCH encourages your participation in different student activities.	4 98	3 85	2 62	1 3
58	Your friends are limited to the circle of establishments that you attend.	1 63	2 65	3 74	4 46
59	You are rejected or discriminated against by others.	1 21	2 32	3 45	4 150
Rights		Always or almost always	Frequently	Sometimes	Never or hardly ever
		F Score	F Score	F Score	F Score
60	Your family violates your privacy (read your correspondence, enter without knocking on the door..)	1 23	2 9	3 24	4 192
61	In your environment you are treated with respect.	4 67	3 92	2 84	1 5
62	It has information about your fundamental rights as a citizen.	4 82	3 67	2 85	1 14
63	Shows difficulties in defending your rights when they are violated.	1 24	2 28	3 67	4 129
64	In the establishment you go to, your privacy is respected.	4 97	3 83	2 61	1 7
65	At ESPOCH your possessions and right to property are respected.	4 97	3 85	2 63	1 3
66	You have limited legal rights (citizenship, voting, legal processes, respect for your beliefs, values, etc.)	1 7	2 11	3 23	4 207
67	In the establishment you go to, your rights are respected and defended (confidentiality, information on your rights as a user..)	4 145	3 76	2 14	1 13
68	The privacy of information is respected in the establishment you visit.	4 134	3 68	2 41	1 5
69	You suffer situations of exploitation, violence or abuse.	1 28	2 34	3 42	4 144

Source: 248 students of the Marketing major - ESPOCH

Table 9 shows the summary of the scores obtained in the Emotional Ecology study variable of 248 students surveyed, where the average percentage exceeds 50%. The result of 75% indicates that the people surveyed have a positive emotional ecology to reduce environmental pollutants, recycle emotional resources, recover skills and abilities in the course of their daily activities, and repair emotional wounds. They are



Tabla 9

Summary of scores for the emotional ecology variable study.

Emotional ecology	Direct Scores	Scores obtained	Percentage
Reduce environmental pollutants on emotions	12	8	67
Recycle emotional resources	12	10	83
Recover skills and abilities	12	9	75
Repair emotional wounds	8	6	75
AVERAGE-TOTAL PERCENTAGE 75%			

adaptive to environments and circumstances; that is, they enjoy very good neuroplasticity in terms of neuroscience. In psychology, they have very good resilience, and in neurolinguistic programming (NLP), they have very good reframing.

In the results of Table 9 for the emotional ecology variable, a high percentage of 75% is evident in this variable. This allows us to provide a solution to social, personal, and professional challenges, contributing to the co-creation of an emotionally ecological, balanced, and harmonious inner and outer world. Emotions, thoughts, expectations, knowledge, and experiences are intangible elements that deeply influence our lives. However, we do not know how to manage them or how to identify them. The 4Rs diagnosis facilitates the recognition of resources, capacities, and abilities in human beings. When applied on a daily basis, it allows for a better quality of life. The 4Rs are a useful tool to avoid facing crisis situations, both personal and collective, by increasing ecological awareness and applying the principles of emotional sustainability to daily life. For example, learning to set limits with toxic and stressful people who can make us sick. They are chronically indecisive, angry, anxious, and bullies. In addition, they represent a risk to our health and well-being if preventive measures are not taken. How do you deal with toxic people? How do you make healthy decisions in relationships? How do I set appropriate limits? And how do you recognize the warning signs to avoid toxic people and a bad experience? in order to improve mental well-being and quality of life [11].

Table 10 shows the application of Table 5 based on the direct scores obtained in each dimension. In the emotional well-being (BE) dimension, the direct score is 28, and Figure 1 of Appendix A searches for a scale for the general sample. The range of the score obtained by Baremo and the standard score of 13 are recorded, and the percentile it gives us is 84. We proceed to record it in Table 10. In this way, the eight quality of life indicators are recorded.

The results of Table 10 in the Quality of Life variable. The result of the general quality of life index is obtained from the sum of the eight indicators. The result is 102 with a



Tabla 10

Summary of scores for the Quality of Life study variable.

Quality of life	Direct Scores	Standard deviation	Percentile
Emotional Wellbeing	28	13	84
Relationships	30	12	75
Material Well-being	17	1	<1
Personal development	24	12	75
Physical well-being	23	5	5
Self-determination	33	14	91
Social Inclusion	28	14	91
Rights	37	11	63
TOTAL standard score (sum)		82	
QUALITY OF LIFE INDEX (Composite standard score)		102	
Percentile of the Quality-of-Life index			55

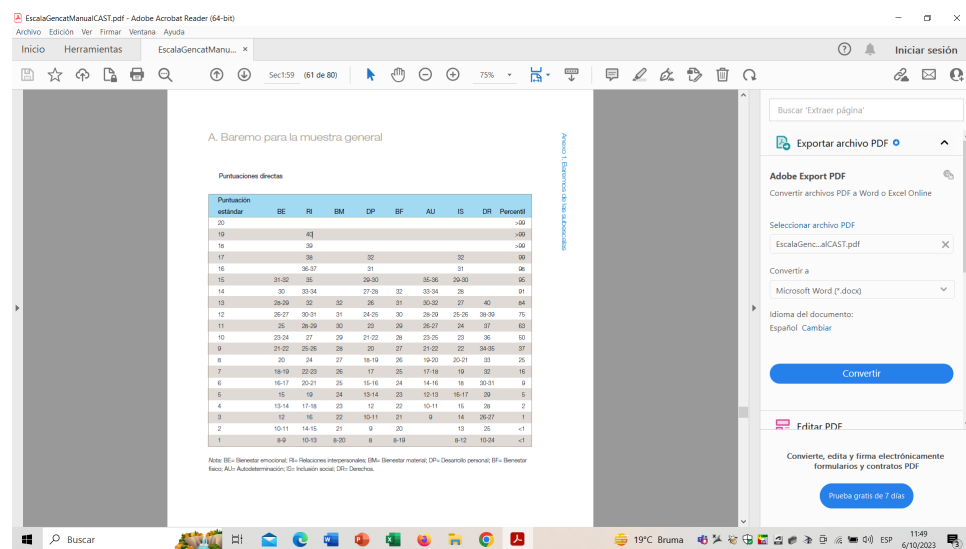


Figura 1

Appendix 1A of the GENCAT Manual shows the scale of subscales for the general sample, pág. 59. [26].

percentile of 55 that exceeds the population average (see Figure 2). This means that the quality of life of the study sample is acceptable. The indicators of self-determination, social inclusion, and emotional well-being stand out from the others.

Figure 2 shows the quality-of-life profile. The result is positive (55th percentile), which exceeds the average of the study population (see Table VII), and the management of emotions is 75%, which is considered high. Therefore, it is positive. The quality-of-life indicators with the highest percentage were self-determination, social inclusion,



Sección 1b. Perfil de Calidad de vida
 Rodee la puntuación estándar de cada dimensión y del Índice de Calidad de Vida.
 Después una los círculos de las dimensiones con una línea para formar el perfil.

Percentil	BE	RI	BM	DP	BF	AU	IS	DR	Índice de CV	Percentil
99	16-20	16-20	16-20	16-20	16-20	16-20	16-20	16-20	>130	99
95	15	15	15	15	15	15	15	15	122-130	95
90	14	14	14	14	14	14	14	14	118-121	90
85	13	13	13	13	13	13	13	13	114-117	85
80									112-113	80
75									110-111	75
70									108-109	70
65	12	12	12	12	12	12	12	12	106-107	65
60									104-105	60
55	11	11	11	11	11	11	11	11	102-103	55
50									100-101	50
45									98-99	45
40									96-97	40
35									94-95	35
30	10	10	10	10	10	10	10	10	92-93	30
25									89-91	25
20									86-88	20
15									84-85	15
10	9	9	9	9	9	9	9	9	79-83	10
5									68-78	5
1	8	8	8	8	8	8	8	8	<68	1
	7	7	7	7	7	7	7	7		
	6	6	6	6	6	6	6	6		
	5	5	5	5	5	5	5	5		
	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4		

Figura 2
 Quality of Life Profile.[26].

and emotional well-being. These factors are considered determinants among young university students who, at the time of the research, prioritized them in their lives.

Tabla para obtener el Índice de Calidad de Vida y el percentil del Índice de Calidad de Vida

Total (suma de las PE)	ICV (PE)	Percentil	Total (suma de las PE)	ICV (PE)	Percentil	Total (suma de las PE)	ICV (PE)	Percentil
100	98	99	8	97	97	15	78	4
110	107	100	17	107	97	56	78	7
118	116	100	26	116	107	65	77	8
117	115	100	25	115	102	64	76	5
116	114	100	24	114	100	63	75	6
115	113	100	23	113	100	62	74	6
114	112	100	22	112	100	61	73	4
113	111	100	21	111	100	60	72	5
112	110	100	20	110	100	59	71	3
111	109	100	19	109	100	58	70	2
110	108	100	18	108	100	57	69	2
109	107	100	17	107	100	56	68	2
108	106	100	16	106	100	55	67	1
107	105	100	15	105	100	54	66	1
106	104	100	14	104	100	53	65	1
105	103	100	13	103	100	52	64	1
104	102	100	12	102	100	51	63	1
103	101	100	11	101	100	50	62	1
102	100	100	10	100	100	49	61	1
101	99	100	9	99	100	48	60	1
100	98	100	8	98	100	47	59	1
99	97	100	7	97	100	46	58	1
98	96	100	6	96	100	45	57	1
97	95	100	5	95	100	44	56	1
96	94	100	4	94	100	43	55	1
95	93	100	3	93	100	42	54	1
94	92	100	2	92	100	41	53	1
93	91	100	1	91	100	40	52	1
92	90	100	0	90	100	39	51	1
91	89	100	0	89	100	38	50	1
90	88	100	0	88	100	37	49	1
89	87	100	0	87	100	36	48	1
88	86	100	0	86	100	35	47	1
87	85	100	0	85	100	34	46	1
86	84	100	0	84	100	33	45	1
85	83	100	0	83	100	32	44	1
84	82	100	0	82	100	31	43	1
83	81	100	0	81	100	30	42	1
82	80	100	0	80	100	29	41	1
81	79	100	0	79	100	28	40	1
80	78	100	0	78	100	27	39	1
79	77	100	0	77	100	26	38	1
78	76	100	0	76	100	25	37	1
77	75	100	0	75	100	24	36	1
76	74	100	0	74	100	23	35	1
75	73	100	0	73	100	22	34	1
74	72	100	0	72	100	21	33	1
73	71	100	0	71	100	20	32	1

Figura 3
 Appendix 2 shows a table to obtain the quality of life index and percentile in the GENCAT Manual, page. 67 [26].

The results of the variable quality of life of the students of the marketing major at the Business Administration School of Escuela Superior Politécnica de Chimborazo demonstrate that:



Emotional well-being): The students are satisfied with their present lives; they do not show any symptoms of depression or anxiety; they are frequently satisfied with themselves; and they are happy and motivated. They feel calm, without anxiety about poor treatment by the polytechnic community.

Interpersonal relationships (IR): They generally carry out activities that they like and share with other students; they have good relationships with their teachers, classmates, and friends; they feel valued and value their relationships. Manage your social networks and have good relationships with family, colleagues, and your partner.

Material well-being (BM): College students do not have enough money to buy what they need and want. Since the majority are from other provinces, the places where they live are small, known as student dormitories, and their parents' income from educational pensions is limited. Therefore, there is no possibility of savings either.

Personal development (PD): Students adapt well to the situations that arise in their studies and the activities that they carry out frequently that allow them to learn and develop new skills. They show difficulties in effectively solving problems and performing their work responsibly and competently, sometimes appearing unmotivated in their daily activities. In addition, they have access to new technologies, learning opportunities, and opportunities to develop professional skills and competencies.

Physical well-being (BF): University students, most of them from other cities or provinces, do not have good healthy eating habits. Their health status is good, they do not have good study, sleep, or rest habits, and access to public health care is limited due to limited time to carry out these activities. Few do physical activity.

Self-determination (AU): Students show personal interests, have goals, and defend their ideas and opinions. They are also the people who decide about their personal lives and how they spend their money. They organize their own lives; they can decide for themselves what to eat, if they study, if they rest, to choose things, what they want, what they desire, how they distribute their free time, and the people with whom they interact.

Social inclusion (SI): they receive support from family and friends; however, there are still physical, cultural, and social barriers that make their social interaction difficult. They have the support of their teachers and tutors. They participate in social, cultural, and sports activities in their careers and in the ESPOCH.

Rights (DE): students are treated with respect in their university environment and do not suffer any type of exploitation, violence, or abuse. Your ethnicity, rights to confidentiality, privacy, treatment, way of being, and opinions are respected. Furthermore, they defend their rights when they are violated.

**Tabla 11***Demographic data.*

Gender of Marketing students F FR %		
Women	151	61
Men	97	39
Total	248	100
Language of Marketing students F FR		
Spanish	248	100
Spanish and Quichua	20	8
Spanish and English	104	42
Total	372	100
Ethnicity of Marketing students F FR %		
White	7	3
Black	15	6
Mexican	143	58
Indigenous	83	33
Total	248	100

Table 11 shows the demographic data of the Marketing major students; 61% are women, 39% men. 100% of students speak Spanish as their native language. 8% speak Spanish and Quichua because they are indigenous students, and it is their native language. 42% speak Spanish and English due to their academic training. 3% consider themselves white, 6% black, 58% are Mexican, and 33% are indigenous.

5. Conclusion

Emotional ecology contributes to the quality of life of human beings through sustainability and emotional well-being. By being responsible for themselves and co-responsible for the world, by reducing the toxic level they give and receive, and by reusing and recycling dormant capacities and abilities. By repairing emotional wounds to achieve harmony and balance in the human being. To enjoy an emotionally sustainable life, it is necessary to work on the 4Rs. Reduce emotional pollutants. Recycle resources and emotions. Recover dormant skills and abilities. Repair emotional wounds to generate positive personal well-being. Well-being in studies, classmates, family, personal and social relationships, and your health. Emotional ecology, with its 4Rs, significantly influences quality of life. Its eight indicators of emotional well-being are interpersonal relationships, material well-being, personal development, physical well-being, self-determination, social inclusion, and rights.



In the quality of life variable, the result of the general quality of life index is considered acceptable by marketing students. The determining factors for university students were the indicators of self-determination, social inclusion, and emotional well-being that they prioritized in their lives. They also show a positive result in interpersonal relationships, personal development, rights to choose, and their integration as human beings in society. The results show that material well-being and physical well-being are not taken care of as they expect; as students, their income does not meet these aspirations at the moment, and many of them neglect physical well-being such as food, sports, exercise, and sleep. It is expected that the present research will serve as a bibliographical basis for future research in the co-creation of an emotionally ecological, balanced, and harmonious inner and outer world and in an emotionally sustainable future.

Acknowledgments

Students of the ESPOCH marketing major and their authorities for the facilities given.

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