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Estimation of Resilience in University Students

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Abstract

The objective of the work is to estimate the resilience level of university students for future resilience interventions. The paper presents a conceptual analysis of the term resilience, based on the criteria of contemporary authors framed in two generations. The methods and techniques used in the work are exposed, where two tools for measuring resilience are highlighted. The importance of the study of resilience in the university environment is discussed and the statistical and graphical results related to the application of the aforementioned instruments are shown in terms of measuring the resilience level in the university students of seven faculties of the Technical University of Manabí.

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1. Introduction

Currently, the term resilience is used in a wide variety of contexts, including organizational, educational, community, sports, military, and clinical. But it was the work of Werner and Smith in 1942 that sowed the seeds of the concept in humans, because until then it was only used in the field of physics to define the properties of elastic objects such as a spring or a rubber ball that absorb the impact of an external force or a blow, change shape without breaking and when the pressure ceases they recover their original form[1].

In the study of resilience can be distinguished two generations of researchers: The first generation begins in the early seventies, with a series of research conducted with children living in situations of risk derived mainly from poverty and mental illness of the parents.[2,3,4,5,6]. In the study conducted by[1], an attempt was made to analyze the conditions of birth and the physical, social and psychological circumstances in which 698 children grew up in Hawaii. His original thesis was to prove that children in unfavorable situations were more likely to suffer from learning disorders, suffer from physical and mental illness, fall into delinquency and have serious problems of adjustment and effective relationships in adulthood than those children who they developed in safe and healthy

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conditions. As suspected, of the 201 children who had been exposed to four or more of the proposed risk factors, 129 showed clear symptoms of serious problems in adolescence. What surprised them was discovering that the remaining 72 children had managed to deal effectively with the difficulties of their childhood.

At first they were considered as exceptional and invulnerable beings, however, as their personal and social traits were identified, it became evident that their resilience was nourished by ordinary capacities. Thanks to the results obtained in this period, the strongly established belief that an unhappy childhood necessarily led the child to develop and manifest psychopathological problems was dismantled.

The second generation of researchers, which began publishing in the mid-nineties, still wanted to discover those factors of risk and protection that favor resilience, but adding the study of the dynamics among them[1,2,3,4,5]. In this generation, resilience begins to be considered as a dynamic process, where the influences of the environment and the individual interact in a reciprocal relationship that allows the person to adapt. As a process, therefore, that can be developed and be present throughout the life cycle and not only reduced to childhood. That is to say, that everyone, at any time and area of their lives, can find themselves in a traumatic situation, overcome it and emerge stronger[3]. For this author, the interaction of resilient factors from three different levels is required: I have (external or social support), I am (internal strength or personal resources) and I can (coping skills and strategies).

Among the advances that in social and economic level are reported in recent years with the opening of the Citizen Revolution in Ecuador, it is worth noting the increase in the possibilities of access to the universities of the less favored classes; But paradoxically, another of the great evils that affect the university institution has arisen, which is the high percentage of students who for various reasons abandon university studies, with a negative economic impact for the efforts made by the state in this regard.[6] Considering the social characteristics that occur in a university center, the study of resilience plays a key role, since it seeks to facilitate that all students fully develop their potential, enrich their lives and prevent the dysfunctions that put resilience at stake in the student environment, which due to its characteristics is subject to constant changes.[7]

2. Research Methods

The inductive method was applied, starting with a logical reasoning of the concepts related to the essences of resilience, to expose the importance of their estimation in university students, in order to create synergies that allow raising the level of response of society university, before the various problems that constantly arise in the lives of students. All of the above was applied to reveal the essence of the scientific problem, in the processing of information and the definition of the system of central and operational categories. In addition to arriving at the corresponding conclusions, which have been used to recommend the design of an adequate work policy that allows guaranteeing the reinforcement of the strengths of the students to maintain the university resilience.

The SV-RES resilience test was applied to a group of students, which allowed estimating their resilience in the university environment. The study is quantitative, descriptive-comparative, of primary data sources, transactional in the collection of information, micro-sociological in its sample coverage. The areas of study are psychology and education. The sample is intentional, looking for the necessary attributes for the study. Composed of 276 individuals of both sexes and ages between 16 and 40 years old, all affiliated as students of the Technical University of Manabí (UTM).

The instrument used is the SV-RES (Chile) scale of the authors, which consists of 60 items, divided into 12 specific resilience factors.[8] The instrument was applied by a student of the career of Clinical Psychology, trained for the study. The instrument created was also applied, which is based on four categories: I have (support), I am and I am (concerns the development of psychic strength) I can (refers to the acquisition of interpersonal skills)[9].

3. Results and Analysis

The importance of the study of resilience is to understand more and more clearly, why some individuals are able to resist and even get out of adversity.[6] Current research on resilience implies a paradigm shift within the psychological sciences since, from traditional psychology, the focus of attention is exclusively on the negative effects that can have for people, dealing with traumatic experiences. With the development of Positive Psychology, the objective was focused on identifying the strengths or protective factors that allow these adversities to be overcome in a positive way, emphasizing the potentials and capacities of people and not so much, in their deficiencies and limitations, knowing that the moments of crises are inevitable and necessary for human development and growth.

Although there is a strong discussion about the concept of resilience, most studies[10] and [11]agree in considering it as a human capacity to succeed or cope in a favorable way in the face of adverse or stressful situations that can cause negative consequences. There are authors that define it as the capacity of the human being to face the adversities of life and, even, be transformed by them.[12] Similarly, the different factors or phenomena that generate in individuals a greater or lesser resilience have been discussed, identifying internal aspects, such as emotional intelligence and socialization skills, and external factors such as family, social context, and relationships. of friendship.[10]

For other authors, resilience is a dynamic process that takes place throughout life and is based on the interaction between the person and the environment, which includes the family and the social environment.[13] Resilience is the result of a balance between risk factors, protective factors, and personality of each individual, functionality and family structure, but may vary over time and with changes in context. In addition, it involves more than surviving the traumatic event or adverse circumstances, since it includes the ability to be transformed by them and even builds on them, giving them meaning. In this way, resilience not only means to continue living but to be successful in some vital aspect and to enjoy life in general. It has already been noted that the use of the concept of resilience in Psychology is relatively new, it has its origin in physics and materials engineering, where it is used to define the elastic capacity of a material. This ability allows it to remain compact, without breaking when pressed by an external force or any artifact, mainly due to its property of deforming itself and, by eliminating that pressure, recovering its original form.

Resilience can be approached from two different approaches. On the one hand, there is the risk perspective, which focuses on the aspects that may trigger psychological, biological or social damage; their interest lies in the risk factors around the individual. On the other hand, there is the resilience approach or also called the challenge model, which focuses on the aspects or protective shields that can generate a defense to the possible damage or threat of the aforementioned risk factors and that trigger in the individual the ability or the ability to overcome these adversities.[11]

These two approaches do not contradict each other; On the contrary, its integration allows for a clearer and complementary vision of the phenomenon. In this sense, it is assumed, on the one hand, the identification of the variables that can negatively and considerably affect the individual, but, likewise, the existence of barriers that can contribute to coping with risky situations is contemplated, and even to be taken out the greatest benefit to adversity, which will lead to a development and a better quality of life for the individual.[14] Given that the article is interested in the young population within the school environment, an approach to the subject is presented based on the study of their behavior in university students. It should be noted that the studies show interest in this field, due in part to the stress, effort and exigency conditions of higher education that involve the ability of individuals to overcome them.

3.1 Instrument SV-RES (Chile)

In 2008, researchers Eugenio Saavedra and Marco Villalta developed a Resilience Scale in accordance with the Chilean cultural pattern.[8] This instrument, aimed at young people and adults, allows establishing a level of resilience in a general way, as well as knowing the specific factors that make it up and being able to work on them.

The test consists of 60 items divided into 12 specific factors of resilience, resulting from the conjunction between Grotberg's verbalizations model (I am, I am, I have, I can) and Saavedra, which indicates the existence of the following 4 areas of depth:

I. Resilient response: goal-oriented behavior sustained or linked response.
II. The vision of the problem: recurrent behavior.
III. The vision of oneself: positive affective and cognitive elements in the face of problems.
IV. Basic conditions: system of beliefs and social bonds that impregnate the basic safety memory and interpret the specific action and results.

Thus the following 12 factors are obtained:

F1: IDENTITY: general judgments taken from cultural values that define the subject. Ways to interpret facts and actions.
F2: AUTONOMY: judgments referred to the bond that the subject establishes with himself to define his particular contribution to his sociocultural style.
F3: SATISFACTION: judgments that reveal the particular way in which the subject interprets a problematic situation.

F4: PRAGMATISM: judgments that reveal the way of interpreting the actions performed.
F5: LINKS: judgments regarding the value of primary socialization and social networks with roots in personal history.
F6: NETWORKS: judgments referring to the affective bond that the person establishes with their close social environment.
F7: MODELS: judgments referring to the conviction of the role of nearby social networks to support the overcoming of new problematic situations.
F8: GOALS: judgments referred to the contextual value of goals and social networks about the problematic situation.
F9: AFFECTIVITY: the judgment that refers to the possibilities about oneself and the link with the environment.
F10: SELF-EFFICACY: judgment about the possibilities of success that the person recognizes in himself before a problematic situation.
F11: LEARNING: judgments referred to assess a problematic situation as a possibility of learning.
F12: GENERATIVITY: judgments regarding the possibility of asking for help from others to solve problematic situations.

Table 1 shows the conjugation of the four areas with the twelve factors proposed.

Table 1
Conjugation of scopes and factors of resilience

	Base conditions	**Self-vision**	**Problem vision**	**Resilient response**
I am, I am	F1	F2	F3	F4
I have	F5	F6	F7	F8
I can	F9	F10	F11	F12

Source:[15]

Some of the items that reflect these factors are:

1) I am a person who shows affection.
2) I have strong affective relationships.
3) I can talk about my emotions.
4) I can learn from my successes and mistakes.

To verify the validity and reliability of the system, a study was conducted with a sample of 288 subjects of both sexes (176 women and 112 men) between 15 and 65 years old. This study revealed that there is no statistically significant difference between men and women in terms of resilience level, but different profiles.[15]

3.2 Instrument Arratía 2011

The Arratia instrument, 2011 consists of a self-report that was previously developed in Mexico for children and adolescents, which measures specific factors of resilience based on the postulates of[16] organized into four categories: I have (support), I am and I am (concerns the development of psychic strength), I can (refers to the acquisition of interpersonal skills).[9]

The instrument consists of 32 items with a Likert type response format of five points (variance 37.82% Total Cronbach's Alpha = 0.9192). From the exploratory factor analysis with orthogonal rotation (varimax) the Kaiser criterion is met (kmo = 0.90, p = 0.001). The internal consistency with the 32 items for the investigation is high (α = 0.885). The dimensions of the questionnaire are three:

1. Internal protective factors. Measures problem-solving skills (α = 0.8050 with 14 items).
2. External protective factors. Evaluate the possibility of having support from the family and/or significant persons for the individual (α = 0.7370 with 11 items).
3. Empathy. It refers to altruistic and prosocial behavior (α = 0.7800, with 7 items).

The qualification of the questionnaire is given by the sum of the total score, where the high values indicate greater resilience, that is to say that the individuals that present high score in the three factors that make up the instrument indicate that they have problem-solving skills, they have support networks for overcoming problems as well as altruistic and prosocial behavior, which are essential components for resilience.[9]

3.3 Analysis and discussion

After coordination with the authorities of the UTM faculties that were studied, both instruments were applied collectively in a single session, during the students' academic time in an approximate time of 40 minutes, explaining the doubts that arose at the time of the application. The participation was voluntary and the data were treated anonymously and confidentially following the ethical criteria indicated by the. American Psychological Association (A.P.A)

The load of the study by faculties of the UTM is shown in table 2.

Table 2
Load of the study carried out by faculties

No	Faculty	Number of students
1	Administrative and Economic Sciences	52
2	Mathematical, Physical and Chemical Sciences.	39
3	Informative sciences	37
4	Health Sciences	100
5	Agricultural engineering	12
6	Philosophy, Letters and Education Sciences	26
7	Zootechnical Sciences	10
8	Total	276

Source: Own elaboration based on the results of the study

Table 3 shows the results of the resilience study through the application of the instruments: SV-RES (Chile) and Arratia 2011

Table 3
Results of the resilience study

Faculties of the UTM Participants	PERCENTAGE FREQUENCY												
	Instrument SV-RES							Instrument Arratía 2011					
	Total	Alto	%	Medio	%	Bajo	%	Alto	%	Medio	%	Bajo	%
Administrative and Economic Sciences	52	19	37	24	46	9	17	45	87	7	13	0	0
Mathematical, Physical and Chemical Sciences.	39	14	36	19	49	6	15	39	100	0	0	0	0
Informative sciences	37	11	30	14	38	12	32	36	97	1	3	0	0
Health Sciences	100	45	45	46	46	9	9	88	88	12	12	0	0
Agricultural engineering	12	2	17	10	83	0	0	11	92	1	8	0	0
Philosophy, Letters and Education Sciences	26	8	31	13	50	5	19	15	58	11	42	0	0
Zootechnical Sciences	10	4	40	2	20	4	40	6	60	4	40	0	0
Total	276	103	38	128	46	45	16	240	87	36	13	0	0

Source: Own elaboration based on the results of the study

Figure 1 shows the graphic relationship of the results of the application of the SV-RES instrument (Chile) by faculties. It can be seen that with the application of the instrument SV-RES (2008), there is evidence of a medium level of resilience, with a tendency to be low in the faculties of Zootechnical Sciences and Computer Sciences

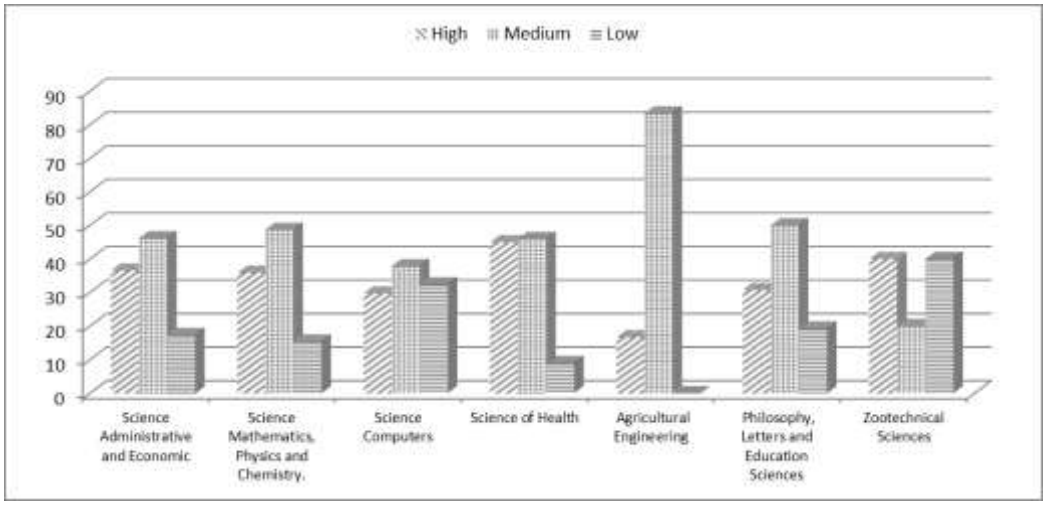

Figure 1. Graphical relation of the results of the application of the SV-RES instrument (Chile) by faculties
Source: Own elaboration based on the results of the study

Figure 2 shows the graphic relationship of the results of the application of the Arratia 2011 instrument by faculties

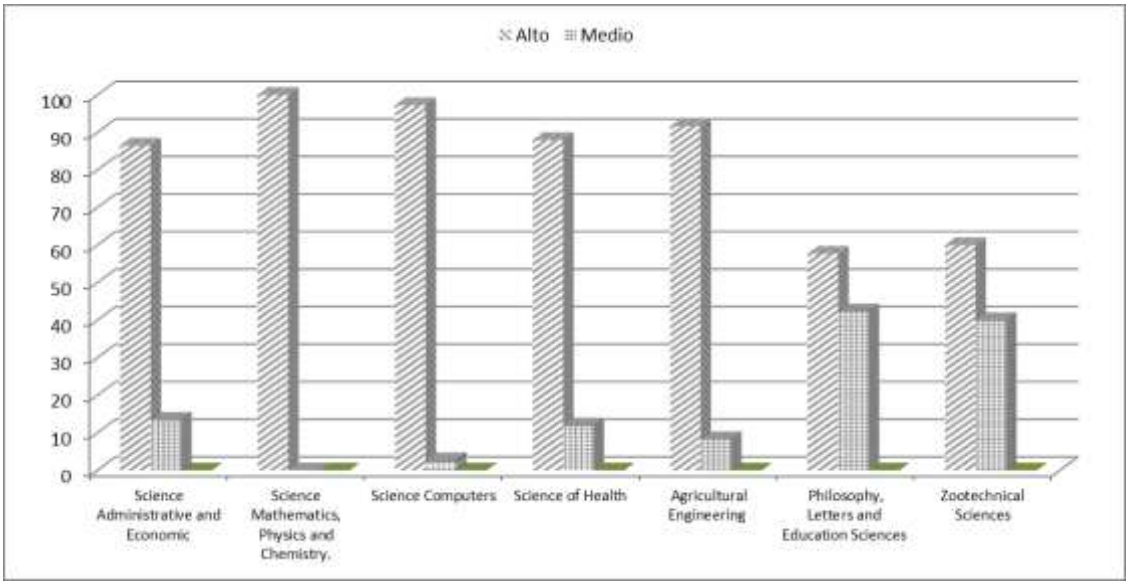

Figure 2. Graphical relation of the results of the application of the Arratia 2011 instrument by faculties
Source: Own elaboration based on the results of the study

It can be seen that with the application of the Arratia 2011 instrument, a high level of resilience is evident, with a tendency to be medium in the faculties of Philosophy, Letters, and Sciences of Education and Zootechnical Sciences. Figure 3 shows the comparative graphical relationship of the results of the application of the instruments SV-RES (Chile) and Arratia 2011 by faculties.

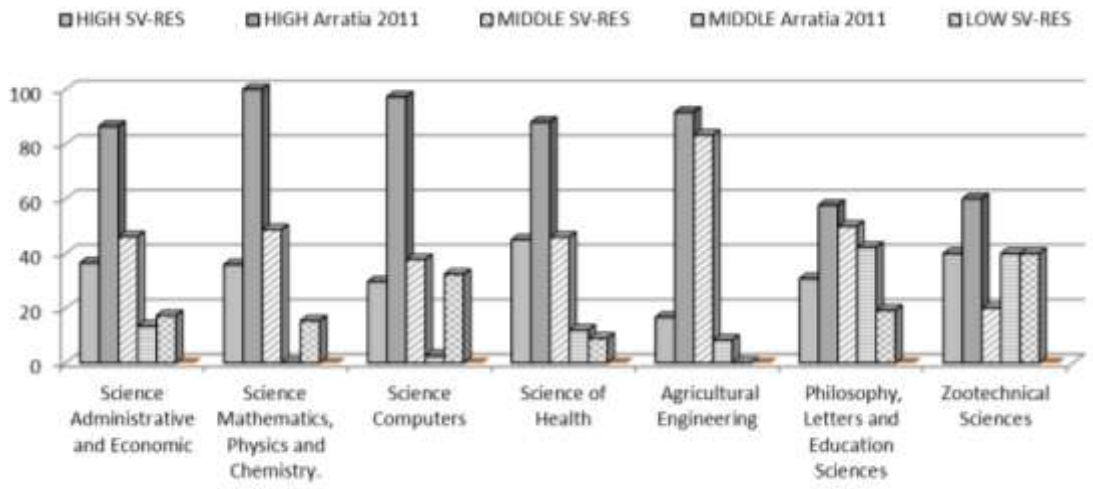

Figure 3. Comparative graphical relationship of the results of the application of the instruments SV-RES (Chile) and Arratia 2011 by faculties

Source: Own elaboration based on the results of the study

In all cases, it can be seen that with the application of the Arratia 2011 instrument, a high level of resilience is evident in all the faculties

4. Conclusion

In the work, we can present the results obtained in a sample of adolescents from positive psychology, which emphasizes the strengths and virtues of people to achieve a better quality of life and greater well-being. Resilience research turns out to be useful in several ways. First of all, to know what are the psychological resources that adolescents have in order to succeed in the university context. Secondly, it is not enough to study adversity and trauma, but it is also important to analyze positive resources, prevent and promote mental health, which can serve as a basis for actions aimed at promoting the implementation of programs of support or support in individuals and strengthen their social skills and therefore prevent risk behaviors.

The incorporation of relatively new subjects in psychology, such as resilience, means a challenge and at the same times a challenge, so that students of Psychology also have knowledge about research in a positive sense. The usefulness of the results presented in the work is that it allows reflecting on some recommendations to promote optimism in adolescents, which can focus on four basic cognitive skills: the first is to recognize and identify the thoughts that are they cross through the mind at the worst moments. These thoughts can be almost imperceptible, but they affect the mood and behavior. The second step is to make an evaluation of those thoughts. The third step is to generate more accurate and alternative explanations, using them to challenge those automatic thoughts.

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