



**PROGRAMA CIP PARA EL DESARROLLO DE LAS
COMPETENCIAS VITALES EN ESTUDIANTES DE EDUCACIÓN
SECUNDARIA Y UNIVERSITARIOS**

***PIC PROGRAM TO DEVELOP VITAL SKILLS IN HIGH SCHOOL
AND UNIVERSITY STUDENTS***

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RESUMEN

La Cognición Instruccional Positiva (CIP) es una formulación teórica basada en los enfoques psicológicos de la Psicología Positiva y la orientación existencial del sentido de la vida. La CIP desarrolla las tres dimensiones de las competencias vitales de la educación operativizándolas en cinco niveles: Análisis del problema, Expresión y reconocimiento emocional, Autoconocimiento, Reflexión y Bienestar. Este artículo describe la implementación del programa CIP, evaluando si el programa incrementa el

bienestar y la satisfacción con la vida, y mejora el desarrollo de las competencias vitales. Además, el artículo compara los efectos del programa PIC entre estudiantes de secundaria (16-18 años) y estudiantes universitarios (19-25 años). Los resultados mostraron que los estudiantes de secundaria, en comparación con los estudiantes universitarios, tenían calificaciones más bajas en gratitud, motivación para el rechazo, motivación para la venganza y en las fortalezas personales. Hay relación entre la gratitud y las fortalezas personales amor, simpatía, espiritualidad, vitalidad y perseverancia. Y no se encontró relación significativa entre la gratitud y la motivación para el rechazo y la motivación para la venganza. El programa CIP aumentó la satisfacción con la vida y el bienestar en mayor medida en los estudiantes universitarios que en los estudiantes de secundaria.

Palabras clave: Psicología Positiva, Cognición Instruccional Positiva, Felicidad, Bienestar, Formación integral.

ABSTRACT

Positive Instructional Cognition (PIC) is a theoretical-practical formulation based on Positive Psychology and the meaning of life's existential orientation. The PIC model develops the three dimensions of educational skills, according to five levels: Analysis of the problem; Emotional expression and emotion recognition; Self-knowledge; Reflection; and Well-being. This research describes the implementation of the PIC program, evaluating whether it increases well-being and life satisfaction, and enhances the development of life skills. Furthermore, the article compares the effects of the PIC program between two groups: high school students (16-18 years old) and university students (19-25 years old). The results showed that high school students, compared to university students, had lower scores on the following measurements: gratitude, transgression-related interpersonal motivations, and character strengths. There is relationship between gratitude and specific character strengths: love, sympathy, spirituality, vitality, perseverance. And there was no significant relationship between gratitude and motivation to avoid and motivation to revenge. As a conclusion, life satisfaction and well-being increased by PIC program was greater in university students than in secondary students of our sample.

Keywords: Positive Psychology, Positive Instructional Cognition, Happiness, Well-being, Comprehensive education.

I. INTRODUCTION

Positive Instructional Cognition (PIC) is based on Positive Psychology of Martin Seligman (2002) and on the meaning of life's existential orientation of Viktor Frankl theories (1984). The epistemological parallelism between both theories, only separated by a few decades, has been studied and evidenced by some authors (Cabaco et al., 2008; Moreno et al., 2010; Moreno et al., 2017; Risco, 2009; Salvino, 2009).

It is a theoretical-practical formulation that aims, through instructional programs, to be a developmental applied guide of life skills, happiness and well-being of the person. This personal development should be understood as the integral growth of all dimensions that conform to it. This integrity is reflected in the Definition and Selection of Competencies (DESECO) project (Simone & Herhs, 2001) and in Skills Strategy (OECD, 2019) sponsored by Organization for Economic Cooperation and Development (OECD), and on the three-dimensional competence in this comprehensive education (Cabaco, 2009; Delors, 1996): 'learning to know' (be able to focus and plan), 'learning to do' (act self-sufficiently) and 'learning to be' (sense of responsibility and sense of life). Finally, it is also based on the education competencies of the European Higher Education Area (EHEA), in line with the proposal of the European Commission (González-López, 2021; Holzberger & Prestele, 2021; Matarranz et al., 2020; Rico-Gómez & Ponce Gea, 2022; Sanz et al., 2020).

This investigation is novel in contrast to studies in relation to cognitive procedural and attitudinal skills taking these in isolation, as it proposes a comprehensive education. In this way, training in the three competence areas can lead to improved well-being and life meaning, through character strength development, as proposed by Peterson and Seligman (2018; 2019).

Therefore, for the development of the three-dimensional competences we propose five levels as suggested by PIC (Barahona et al., 2013; Cabaco, 2009; 2019), based on the Problem; Emotion; Analysis; Contemplation; and Equilibrium process (PEACE process) (Marinoff, 2000, 2020a, 2020b), in seeking to confront existential issues from a practical perspective of philosophy.

The PIC model levels are:

1. Analysis of the problem. Specific instructional training focused on acquiring and internalizing coping mechanisms and the acquisition of a high degree of metacognitive monitoring into one's own interventions (Gutierrez et al., 2016). For this, we use the patterns of contemporary cognitive

problems solving (Bruning et al., 2005; Gutierrez de Blume et al., 2021), which proposes four stages in the general procedure:

- a) Identify the problem, a key stage of the process focused on defining the problem. It involves defining the problem in specific, operative and solvable terms.
- b) Represent the problem that we operationalize by means of the four axes that globalize the problem space: the initial state (problem identification), the final state or goal (situation that will define the solution itself), the operators or strategies that we are going to use (available or possible resources) and the restrictions or limitations (handicaps or problems).
- c) Select the strategy, because each problem may have different magnitude in terms of complexity, possible solutions (representations). It is also very important to discriminate against the deep structure and apply, for example, analogical reasoning to problems that have the same structural nature despite apparent differences in their surface manifestation. The aim is to improve the expression skills while at the same time providing considerable cognitive savings in its performance.
- d) Implement and evaluate, i.e., to move from cognitive skills (learning to know) to procedural skills (learning to do) but with an attitude of self-regulation (learning to be). Experience indicates that the success of a strategy depends basically on the first steps (adequate identification and representation of the problems) but also on the flexibility to change strategy and to evaluate in advance the consequences of its application.

2. Emotional expression and emotion recognition. At this level it is sought to enhance the capacity of expression (outward communicative function) and emotion recognition (internal communicative function) (Keltner, et al., 2019). Some authors consider that this emotional domain could be called emotional awareness (Iriarte et al., 2006; Lambert, 2020; Smith et al., 2020), to the extent that one's domain allows us to know the emotions at the time of its appearance (be able to exercise control), be aware of their operation (look for suitability emotional) and the consequences (adaptive dimensions). We also consider the emotional intelligence construct constituted with the sum of rational and emotional dimensions of behavior (Goleman, 1995; 2011; Goleman & Senge, 2016; Patel & Marshal, 2020). This stage is in line with the "pleasant life" of Seligman (laughter, humor, etc.) and 'compliance

with a Purpose' and 'human encounter' that leaves the existential void as proposed by Frankl.

3. Self-knowledge: Favoring self-knowledge with instructional strategies we aim to strengthen people against situations that generate personal and social instability (Kitchen, 2020). At this level several techniques and models, such as the Multiple Intelligences theory by Gardner (1999) concerning intrapersonal intelligence serve as support (Moran & Gardner, 2018) and musical intelligence (Bruna et al., 2022; Carraturo et al., 2025; Cisternas et al., 2024; Oriola & Gustems, 2021). From this self-knowledge emerges what Seligman calls the second level of happiness: good life, and the will for meaning which Frankl proposed as the essential motivation of human behavior.

4. Reflection on the situation / problem and its involvement in the personal dimension. This type of intelligent behavior allows to differentiate if rapid cognition (i.e. selection of relevant data on a specific contextual situation) may be considered objective or if it is 'contaminated' by personal troubles. This formulation is based on the works of Wilson (2002) about cognitive level, which show that people have developed a kind of "decision-making device" to be able to make rapid judgments based on very little information (Connors & Rende, 2018) and, in Damasio's works (1994, 2010, 2018) about the neuropsychological plane, through which we know it is the ventromedial region of the brain which sets contingencies and relationships being also responsible for organizing external information prioritizing and pointing out things that require immediate attention, and in two processes responsible for decision making (Ricou & Marina, 2020): one controlled by intuition, and other that requires rational justification.

5. Well-being. In this level, the aim is to apply the character strengths with the objectives of acquiring a sense of belonging, performing a service to something transcendent and reaching the level of happiness corresponding to Seligman's concept of a "meaningful life" or as an element of well-being in PERMA model (Seligman, 2002; 2018). In Frankl's work the Meaning of life is understood in relation to the desire that all humans have to find the ultimate reason for their existence (King & Hicks, 2021; Moreno et al., 2017; Mucci, 2024; Salazar, 2021). The person who steps outside of himself is an open being, a 'being for another's a being beyond himself', someone who is going to encounter something that is beyond and that gives consistency (Mucci, 2024; Risco, 2020; Schnell, 2020).

II. OBJECTIVES

This research studies the effectiveness of the PIC program which seeks to promote character strengths that further maturity, with the tools of Positive Psychology (Seligman, 2002) and guidance and existential meaning of life (Frankl, 1946).

The overall objective of the research is to develop personal skills (gratitude, capacity for forgiveness and character strengths) in university and high school students, so that each person can identify the way to happiness or well-being.

And the specific objectives were threefold:

Objective 1: to evaluate if the PIC program: increases the gratitude trend; increases the capacity to forgive; and increases character strengths.

Objective 2: To compare the differences in gratitude trend, the capacity to forgive, and character strengths based on age (high school students, 16-18 years old; and university students, 19-25 years old).

Objective 3: to establish relationships between gratitude, the capacity to forgive and character strengths.

Finally, with the implementation of the theoretical PIC model it was intended to validate it after having carried out a pilot study in another cultural context, such as Cuba (Barahona, et al., 2014). Similarly, we also rely on studies and existing successful achievements in Spain, as in the case of some modules of the Master's Program in Counseling and Family Mediation which is taught in the Pontifical University of Salamanca, as well as E-Learning education in rural contexts using Information and Communication Technologies (ICT) (Cabaco, 2009).

III. METHOD

1. PARTICIPANTS

The participants' ages were between 16 and 25 years old. The research sample was composed of 110 young people. Of those, 52 were the high school students' sub-sample (16-18 years old) and 58 were the university students' sub-sample (19-25 years old). Regarding sex, there were more females ($n = 70$; 63, 6%) than males ($n = 40$; 36, 3%).

Each sub-sample employed an experimental and a control group which did not differ significantly either in age or sex distribution. Regarding the experimental group, it was composed of 58 students (28 high school students

and 30 university students) and the control group of 52 (24 high school students and 28 university students).

2. INSTRUMENTS

The instrument for intervention was the PIC program, originally developed for this research. It consists of five units corresponding to each level of the PIC (Table 1).

Each unit had two activities. Each activity involved work rather than model instructional training for subjects to acquire practical skills. Some of the activities were created specifically for this program, while others (marked with an asterisk) were adapted from the Emotional and Moral Growth Education Program, by Alonso & Iriarte (2005).

Table 1. *PIC Program*

Units	Activities
I. Analysis of the problem	1. Problems of the castle and the tumor 2. Decision styles *
II. Emotional expression and emotion recognition	3. Four basics emotions* 4. Emotions and signals*
III. Self-knowledge	5. Your personality* 6. How do we see? How do they see us?
IV. Reflection	7. Your time*
V. Well-being	8. The story 9. Obtaining joy and optimism* 10. Using my strengths*

3. PROCEDURE

For the implementation of the PIC program two samples were selected: one group of high school students (age 16-18 years old) and another group of university students (age 19-25 years old). The sessions held once a week for three months during usual school hours. The sessions were conducted by researchers.

First, session 1 was performed with the application of the pretest for each group (experimental and control). All individuals were informed about the objectives of the study, confidentiality and anonymity of their responses and the voluntary nature of participating in research. Subsequently, the PIC program was implemented from the second to the sixth session (Table 2) with the experimental group of each sample (high school and university students). For each session of the program there were two activities.

The objectives of the sessions are detailed below.

In the first activity, the objective was to seek the learning of problem-solving strategies using analogical thinking, to acquire and internalize metacognitive coping and supervision schemes towards their own problems that arise from now on.

The objective of activity number two was to find out what their own and personal style of decision-making is and its influence on the configuration of their identity.

In the third activity, the objective was to enhance the capacity for emotional expression and emotion recognition, to have emotional domain that involves the acquisition of emotional awareness.

The objective of the fourth activity was to recognize the emotions in others by paying attention to non-verbal communication to facilitate the communication of affective states and the expression of appropriate behaviors in interpersonal relationships. It supposes an adaptive function necessary for the social functioning of people.

In activity number five the objective was to know oneself to capture and focus attention on the most important ideals and values in your life.

As regards the sixth activity, the objective was to improve the ability to use instructional strategies that facilitate self-knowledge. In addition, acquire the ability to compare the perceptions we have of ourselves with those of others.

The objective of the seventh activity was to promote a sense of responsibility and choice about their actions, studying their own behavior.

In the eighth activity, the objective was to differentiate between objective quick cognition and “contaminated” cognition by personal resonances, through the selection of significant data from people and contexts.

The objective of activity number nine was to learn to recognize and cultivate moments of happiness to continue advancing in personal growth in the desire to achieve the person we want to be.

And finally, the objective of the tenth activity was to encourage them to show themselves as they are, applying their personal strengths to the service of both themselves and others.

Regarding the methodology, all sessions were composed of a part of individual work of the student, another part of group work or partner among members of the group and finally an intervention by the program leader to ensure the learning acquired.

The materials used for the sessions were activity cards, blank sheets of paper, pens and colored paints.

Table 2. *PIC Program temporalizing*

Session	Activity
1	Pretest: Questionnaires 1, 2 & 3 (Control and experimental group)
2	1. Problems of the castle and the tumor - 2. Decision styles
3	3. Four basic emotions - 4. Emotions and signals
4	5. Your personality - 6. How do we see? How do they see us?
5	7. Your time - 8. The story
6	9. Obtaining joy and optimism - 10. Using my strengths
7	Post test: Questionnaires 1, 2 & 3 (Control and experimental group)

Session 7 (posttest evaluation) was conducted with both the experimental and the control group a week after the last session of the program, with the same assessment instruments. At the same session, a small evaluation was performed by the participants. To do so, guides were offered. This task has provided interesting information in assessing the strengths and weaknesses of the program according to the participants.

4. DATA ANALYSIS

Statistical analyses were performed using the SPSS Version 20.0 for Windows (IBM® SPSS® Statistics). First, descriptive statistics (mean and standard deviation) for all the dependent variables were calculated. Afterwards, Levene Test for equal variances was estimated. Furthermore, one-way ANOVA and Welch & Brown-Forsythe Test were calculated to examine significant differences between four groups, and to compare two groups (experimental and control) t-Test was calculated. Finally, to study the relationships between the variables Pearson's correlation was estimated.

IV. RESULTS

Objective 1. An ANOVA (one factor, four groups) was performed for all the variables. The results showed there were no significant changes ($p < .05$) in gratitude, in motivation to avoid and motivation for revenge, or character strengths (Table 3).

Given these results, it was decided to group the cases regardless of age so that instead of four groups we would have only two, one control and one experimental group. The purpose of this group was to study if significant differences would be produced.

We studied whether there were differences in their means with the T test, and Levene's test, if there were differences in their variances (Table 4). We compared if there were any differences in equivalence during the pretest. Data Table 4 indicates that there are no significant differences in the means in the groups, as differences in variances were found for many of the character strengths. Many of the variances of character strengths were unusually higher in the control group than in the experimental group. Thus, we studied the frequency tables of the variables to detect any possible reasons for this unexpected finding.

Table 3. *Posttest one factor ANOVA (four groups) and robust tests in gratitude, forgiveness and character strengths*

<i>Posttest 4 groups</i>	<i>ANOVA</i>		<i>Robust test</i>	
	<i>F</i>	<i>Sig.</i>	<i>Welch(Sig.)</i>	<i>Brown-Forsythe(Sig.)</i>
Gratitude	.880	.454	.539	.462
Mot. avoid	.874	.457	.497	.474
Mot. revenge	.970	.410	.410	.421
Curiosity	1.208	.311	.496	.329
Love knowlege	2.318	.080	.108	.078
Judgement	.901	.443	.372	.469
Practical Intell.	.551	.649	.608	.658
Perspective	.431	.731	.760	.747
Bravery	.727	.538	.599	.557
Perseverance	1.248	.296	.367	.302
Integrity	.870	.459	.299	.484
Vitality	.151	.929	.952	.932
Love	.317	.813	.907	.828
Kindness	.048	.986	.976	.987
Emotional Intell. (EI)	.264	.851	.803	.860
Citizenship	.531	.662	.686	.679
Fairness	.166	.919	.929	.924
Leadership	.640	.591	.620	.606
Forgiveness	.191	.902	.899	.905
Modesty	.961	.414	.571	.430
Prudence	.157	.925	.911	.928
Self-regulation	.814	.489	.360	.492
Apprec. beauty	2.381	.074	.055	.082
Gratitude	1.277	.286	.156	.315
Hope	.664	.576	.614	.588
Humor	.572	.635	.720	.648
Spirituality	.902	.443	.474	.445

Table 4. *T-test and Levene's test in control and experimental groups in pre-test*

<i>Pretest 2 groups</i>	<i>Levene test</i>	<i>T-test</i>
	<i>Sig.</i>	<i>Sig (bilateral)*</i>
Gratitude	.962	.712
Mot. avoid	2.168	.492
Mot. revenge	2.186	.509
Curiosity	.260	.499
Love knowledge	.657	.255
Judgement	.028	.177
Practical Intell.	.915	.249
Perspective	.020	.296
Bravery	.491	.844
Perseverance	.101	.141
Integrity	.030	.706
Vitality	.004	.658
Love	.035	.502
Kindness	.019	.777
Emotional Intell. (EI)	.140	.719
Citizenship	.000	.480
Fairness	.207	.888
Leadership	.021	.268
Forgiveness	.016	.533
Modesty	.390	.364
Prudence	.048	.532
Self-regulation	.102	.732
Apprec. beauty	.379	.848
Gratitude	.007	.210
Hope	.001	.228
Humor	.025	.911
Spirituality	.423	.423

*Significance is shown for the case of homogeneous variances.

Objective 2. In the statistical analysis, in some of the variables studied high school subjects achieved best average scores. Table 5 is a summary of the data obtained in the study that offers significant results. As can be noted, young subjects do better in the pre-test on character strengths perseverance, love and

emotional intelligence. Only in two variables (appreciation for the beauty and love of knowledge) university students score higher on the posttest measure (see Table 6).

Table 5. *Descriptive statistics, t-Test and Levene's test in younger and older adolescents in pretest*

<i>Pretest</i>	<i>Younger</i>		<i>Older</i>		<i>Levene test</i>	<i>t-Test</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Sig</i>	<i>t</i>	<i>t</i>
						<i>Equal variances</i>	<i>No equal variances</i>
Perseverance	33.90	5.66	30.97	7.03	.09	.02	.02
Love	42.06	5.59	39.62	5.26	.59	.02	.02
Emotional intelligence	40.10	4.86	38.22	4.57	.78	.04	.04

Table 6. *Statisticians group, T-test and Levene's test in younger and older adolescent in posttest*

<i>Posttest</i>	<i>Younger</i>		<i>Older</i>		<i>Levene test</i>	<i>t-Test</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Sig.</i>	<i>Equal variances</i>	<i>No equal variances</i>
Love knowledge	33.19	5.99	35.95	6.86	.267	.028	.027
Appec. beauty	35.42	7.01	38.59	6.00	.459	.012	.013

Objective 3. Gratitude, motivation to avoid and motivation for revenge variables did not significantly relate with each other (see Table 7). Data are surprising because one could expect some kind of relationship between these variables.

Table 7.

Correlation between Gratitude and Transgression-Related Interpersonal Motivations variables

	Gratitude	Mot. Avoid	Mot. revenge
Gratitude			
Mot. avoid	-.026		
Mot. revenge	-.154	.121	

Note: $p < .01$

Between gratitude and many character strengths have been found relationship.

Gratitude is significantly related ($p < .05$) with the character strengths: perseverance ($r = .251$), vitality ($r = .258$), spirituality ($r = .263$), sympathy ($r = .270$), love ($r = .315$), gratitude (character strength) ($r = .401$), curiosity ($r = .208$) perspective ($r = .211$), emotional intelligence ($r = .213$), humor ($r = .221$) and hope ($r = .242$).

Motivation to avoid is positively related ($p < .05$) to appreciation of beauty ($r = .194$) and practical intelligence ($r = .200$) and is negatively related ($p < .05$) to forgiveness ($r = -.223$).

Motivation to seek revenge is positively related ($p < .05$) to practical intelligence ($r = .369$) and negatively related ($p < .05$) to character strengths forgiveness ($r = -.521$), modesty ($r = -.307$), humor ($r = .225$), judgment ($r = .219$) and appreciation of beauty ($r = .194$), and negatively related ($p < .05$) to equity ($r = -.212$).

V. DISCUSSION

Objective 1: PIC program did not yield the expected results because it did not significantly increase the gratitude trend, the capacity to forgiveness and the degree of character strengths in the subject of this investigation.

Objective 2: Contrary to the hypothesis formulated approach, results showed that, after the program, university students obtained lower results than high school students in gratitude, transgression-related interpersonal motivations and character strengths.

A possible interpretation may be that university students are more realistic about their own knowledge and leads them to see themselves with fewer strengths than high school students. Therefore, it can be said that university students in our study were mentally younger than was expected according to their age. Other studies showed similar results, too (Booker & Dunsmore, 2015; Giménez, et al., 2012; Kılıç & Uzun, 2020).

Objective 3: It has been found relationship between the variable gratitude and many character strengths: perseverance, vitality, spirituality, sympathy, love, gratitude (character strength), curiosity, perspective, emotional intelligence, humor and hope; so that a greater gratitude, there is greater degree of these character strengths.

However, there is no statistically significant correlation between the variables gratitude and motivation to avoid and motivation to seek revenge.

Motivation to avoid is negatively related to character strength forgiveness and motivation to seek revenge was related to character strengths forgiveness and modesty. On the other hand, motivation to avoid was positively related to character strengths appreciation of beauty and practical intelligence, while motivation to seek revenge is related to character strengths practical intelligence, humor, judgment, and appreciation of beauty.

VI. CONCLUSION

For a proper interpretation of the data obtained in this investigation, it can be considered that life satisfaction does not depend on the personal characteristics (Buschor et al., 2013), and that it cannot be explained by sociodemographic variables: gender, age, socioeconomic or occupational status (Moreno et al., 2017; Risco, 2009; Rosales, 2017). However et al. (2017) have found that personality has a strong relationship with well-being and happiness in Spanish university students. And Chui & Wong (2016) provides results on

the differential effect of sex on the subjective well-being of adolescents, provides results on the differential effect of sex on the subjective well-being of adolescents in China, with greater differences among boys than girls.

Regarding the limitations of the study, firstly, the subjects of our study are a convenience sample. Future research should expand the source of the sample to subjects from universities and secondary schools with different characteristics. Regarding the length of the intervention, the sessions could be increased in order to enhance the effect of the program.

Finally, we underline some perspectives to be considered as a continuation of this research. It is necessary to keep working on this PIC program in several aspects. Concerning the activities, it is important to expand their number according to the theoretical PIC levels in order to reinforce the acquisition of skills sought through them.

It is also necessary to increase the number of sessions, and therefore the program intervention time. Moreover, it is known that the acquisition and attitudinal change is not easy or quick (Thacker et al., 2020), so it is believed that this factor is determinant on new implementations of the PIC program.

In the same way, to increase motivation, we think it is appropriate to work in self-regulated learning (Navarro, 2019; Torre, 2007), which involves implementing a process of planning, observation, controlled execution and reflection on the whole process. Self-regulation is a critical ingredient in achieving better academic results, commitment and involvement manifested in the learning process and motivation to learn, and it is related with intelligent behavior or successful intelligence as it is explained by Sternberg (2007) and has been implemented by Knight (2020).

Finally, another line of future research would be the implementation and study of the effect of the PIC program in other populations, for example, in children or the elderly. In the latter, studies have been implemented with satisfactory results (Cabaco, 2019; Franco, Barahona, et al., 2012). In elderly it can also be very interesting to work on the improvement of cognitive and emotional skills offered by the techniques called Life Review (Jeffers, et al., 2020; Serrano et al., 2011).

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