

## Synergy between Positive Intelligence and Critical Thinking: A Study in Educational Psychology Master's Students in the San Martin Region, Peru

Contreras-Julian Rosa Mabel<sup>1</sup>, Delgado-Bardales Jose Manuel<sup>2</sup>, Sanchez-Davila Keller<sup>3</sup>, Palomino-Alvarado Gabriela del Pilar<sup>4</sup>

### Abstract

*The aim of the study was to determine the relationship between positive intelligence and critical thinking in the Master's students of Educational Psychology at the Cesar Vallejo University of Tarapoto. A basic methodology was used, with a quantitative approach, non-experimental design and descriptive correlational scope. A population and sample of 80 students was counted. The results showed that positive intelligence is at a medium level with 95% and critical thinking is also medium with 84%. It was concluded that there is a very low, non-significant positive relationship between positive intelligence and critical thinking in the Master's students of Educational Psychology, with a statistical coefficient of Spearman's Rho of 0.151 and a p-value of 0.181. In addition, there is only 2.28% of variability.*

**Keywords:** *Transparency, Citizen Participation, Accountability, Effectiveness, Management.*

### Introduction

This research focuses on addressing SDG 4, which indicates that quality education must be guaranteed for all students. Likewise, goal 4.2 indicates that higher education must be of quality in order to guarantee the preparation of professionals who can perform efficiently and effectively. This is definitely important because in every organization, we work with people and critical thinking is important, as well as thought control and management of saboteurs (INEI, 2023).

The limited knowledge and studies carried out on positive intelligence means that people do not take advantage of it efficiently and do not reach their great potential, which causes them a frustration and they are not able to achieve their purposes, wishes, goals, objectives, etc., and their worst enemy is inside of them. Currently, studies have focused on emotional, social and cognitive aspects of people because managers, executives, etc., do not master the power of their thoughts and conquer to their saboteurs, which in the long term makes them unhappy, frustrated, bitter and bit satisfied with their realization and development, especially dealing with the work team that they are in charge (Chamine, 2013). The majority of the human beings do not demonstrate a better development with efficiency and effectiveness, letting themselves be carried away by adversity in many cases, like Covid-19 time. A similar reality is perceived with critical thinking, a deficit in the capacity for analysis, which leads to not being as assertive when making decisions and can put at risk the companies where they work, becoming evident in the training process and development, especially in administrative positions that allow improving management and fulfilling the institution's purposes.

Studies have not focused on controlling the mind in order to make it act in one's favor, or on developing skills that allow people to make better decisions, judge, evaluate, analyze, criticize, etc. These are more complex capacities that allow us to be more strategic, effective and efficient. Regarding critical thinking, a deficiency in its applicability has been demonstrated, affecting all dimensions of the person. Decision-

---

<sup>1</sup> Postgraduate professor at César Vallejo University, Email: rcontrerasj@ucv.edu.pe, (Corresponding Author), Cell phone: 945057864. ORCID: <https://orcid.org/0000-0002-0196-1351>; Scopus Author ID: 57215716159. Renacyt Code: P0093136.

<sup>2</sup> Postgraduate professor at César Vallejo University, Email: jmdelgadob@ucvvirtual.edu.pe, cell phone: 941907628. ORCID code: <https://orcid.org/0000-0001-6574-2759>. SCOPUS Author ID: 24070333700, Renacyt code: P0050554.

<sup>3</sup> Postgraduate professor at César Vallejo University, Email: ssanchezda2081@ucvvirtual.edu.pe, Cell phone: 992502739. ORCID code: <https://orcid.org/0000-0003-3911-3806>

<sup>4</sup> Postgraduate professor at César Vallejo University, Email: dpalominoal@ucvvirtual.edu.pe, Cell phone: 977210254; ORCID code: <https://orcid.org/0000-0002-2126-2769>.

making is one of the areas in which this deficiency is most noticeable, since it is where it should be most effective. The causes of this problematic reality are due to the lack of knowledge of the saboteurs of positive intelligence: evasive, controlling, hyper-achieving, hyper-rational, hyper-vigilant, complacent, restless, rigorous, victim and judge; the lack of strengthening of intellectual indicators also influences: clarity, certainty, relevance, logic, justice, precision, depth, breadth and importance. In this sense, if these saboteurs are not worked on and addressed in a timely manner, the consequences would be: problems with personal, interpersonal, and group skills, poor management, poor work environment, job dissatisfaction, work stress, work for compliance, little identification and commitment to the institution, work addiction, controllers, workaholic, obsessive perfectionist, anxiety, martyr, never say no, etc.

This study HE justifies in theory because generates knowledge about a issue very little studied, contributes arguments fundamentals about the importance of carry out a investigation scientific that contribute in the organizations for can have he control of the thought and get the mind act to favor of each one, of this way is to get it that he proposes, because he would have articulated and systematised it mentally. Also serves for increase information and analysis about intelligence positive, already that only there is a investigation of a book published in he 2013, without embargo, until now No you are giving importance, tough to that is necessary know he level of the saboteurs and overcome them. With this study it that he look for is demonstrate the relationship between variables of investigation with the purpose of achieve that The saboteurs contribute to drive the mind and that be useful for a better development in the society. In addition, this study is very relevant methodologically because he believe two instruments of investigation: a questionnaire for the intelligence positive and he thought critical, both They passed his validation by three experts, too he used in the sample pilot for guarantee his reliability for, subsequently be applied. Finally, this will serve for new studies, already that there is no none scientific research about intelligence positive.

### *Development*

Positive intelligence is the degree of control a person is able to exert over his or her own mind and to what extent his or her mind acts in his or her own benefit, that is, the percentage of time that our mind acts in favor or against us. When the positive intelligence quotient is increased, it gives a boost to the wise person within and keeps the saboteurs at bay (Chamine, 2013). Saboteurs are the invisible agents of a person's self-sabotage, demonstrating the automatic mental habits of his or her brain through the beliefs and limiting assumptions of how to face the challenges that are presented to him or her in life. Saboteurs contain the negativity that causes unhappiness, dissatisfaction, stress, helplessness and diminishes performance. The opposite happens with "wise" because he or she is dedicated to achieving positive things (Chamine, 2013). For this research, the dimensions are made up of the ten saboteurs of positive intelligence, as established by Chamine (2013): a) Evasive: they focus on positive experiences, avoid conflicting and unpleasant situations that affect their health, and worry about others, especially in overcoming adversity, controlling their emotions. b) Controller: they control the competencies, capacities, skills and actions of others. They show great anxiety and impatience that is difficult to control, which is a worrying factor because in life there are many adversities that arise and a positive and optimistic stance must be taken. c) Hyper-achiever: they need to receive constant approval from others, which must be taken into consideration because the person must demonstrate initiative, be proactive and innovative. d) Hyper-rational: they are very rational and logical, cold and calculating, and demonstrate a great development of the capacity for analysis in the face of problems, giving creative solutions. This is favorable, because it helps to make better decisions.

e) Hypervigilant: He is very anxious, distrustful and intense with others, and is constantly watching his surroundings. f) Complacent: He shows solidarity with others and wants to help them, but he longs to be accepted, stimulated and appreciated frequently. g) Restless: He needs to be doing activities to keep himself busy, he cannot stay still and he seeks to do different things. When new experiences are complex, he shows frustration, tiredness and annoyance. Restless: He needs to be doing activities to keep himself busy, he cannot stay still and he seeks to do different things. When new experiences are complex, he shows frustration, tiredness and annoyance. h) Rigorous: He likes to show critical perfectionism, not only with others, but also with himself. He is neat and organized in his things and considers others to be lazy people

who like things easy and poorly finished. i) Victim: He shows martyr attitudes; He believes that he is the one who suffers, that nobody understands him and that he is a poor thing. He uses these attitudes as strategies to get attention. j) Judge: he is the saboteur who has the most power of all. The other saboteurs are accomplices, they do what the judge wants and help the person to only live focused on negative thoughts. Regarding the second variable, critical thinking, it recognizes the structures (the elements of thought) and the most basic intellectual standards of thought (universal intellectual standards). Faced with this, it can be said that it is the key to the creativity of critical thinking. It consists of restructuring thought as a result of analysis and evaluation (Paul and Elder, 2003). For Rodríguez (2021), it is a process in which the person uses reason to direct his thinking in order to question statements and emotions, to have a more reasonable position on a subject.

For Petress (2004), it is necessary to pay attention to strengthening critical thinking. Facione (2007), on the other hand, states that to speak of critical thinking is to have good judgment. According to the Anáhuac University Network (2021), it is the ability of a person to select information. In addition, for Gil, et al. (2016), it is the ability to analyze reality.

For critical thinking, the following capacities have been taken as dimensions: a) Clarity, is the ability that shows that people have to understand what is read and make sense of the reading they do. b) Certainty, is the ability to evaluate the validity of information. This process is not so simple, since it is necessary to have criteria and analytical capacity to corroborate what is being asked or what is being evaluated. c) Relevance: process of identifying the main ideas, that is, verifying the most relevant information in relation to the problem of a text. d) Logic: process of analyzing, decoding and encoding a text. e) Depth: ability to judge whether or not the text is complex. f) Justice, ability to judge with rigor and impartiality from one's own perspective. g) Precision, process of analyzing in detail and thoroughly the most important aspects of a text, for which it is required that the problems be detailed. h) Breadth, the points of view of other authors that are not indicated in the reading are analyzed. i) Importance, they focus on things and actions that generate greater productivity or that are effective in fulfilling the purposes.

## Material and Method

The research was of a basic type with a non-experimental design with a quantitative approach and with a descriptive correlational level and with a cross-section. The population and sample consisted of 80 Master's students in Educational Psychology from the Postgraduate Program of César Vallejo University ....., Tarapoto. The technique applied was the survey and as an instrument, the questionnaire .

## Results

**Table 1.** Level of Positive Intelligence

Level	Range	No.	%
Low	41 - 96	01	1 %
<b>half</b>	<b>97- 152</b>	<b>76</b>	<b>95 %</b>
high	153 - 205	03	4 %
Total		80	100 %

*Note:* Questionnaire applied to master's students

The table shows that the students of the Master's in Educational Psychology at the Cesar Vallejo University in Tarapoto are at an average level with 95%; it can be deduced that the students are at a point of equilibrium with respect to the saboteurs: the evasive, the controlling, the hyperrational, the hypervigilant, the complacent, the restless, the rigorous, the victim and the judge. That is to say, that many times the students tend to avoid conflicts and unpleasant situations, which is very positive, since it is evident that they like to work peacefully, without entering into conflict situations that affect the work environment. Human beings will not always try to control all the activities, projects, etc., of the organization, but they must delegate to

their staff based on the capacity that they possess. It was found that the master's students are not so addicted to work, which is also favorable, because in life you don't just work, but you also have to do other activities that you like, such as spending time with the family, traveling, among others. With these results it was also perceived that they are people who show logic in what they do and that, on many occasions, they tend to be cold in different situations.

It is also perceived that they are not so anxious or intense, which is also favorable to avoid very stressed or frustrated people. People do not always want to help others, that does not mean that they are indifferent to some needs that may arise, nor are they so interested in being accepted in a group, which is very good, because in society there are different thoughts or points of view that, on some occasions, are opposed to those of others. That cannot be a factor that affects them, because they are not accepted in a group. They do not always want to be very busy nor do they try to investigate to avoid getting frustrated; they do not tend to become great martyrs nor do they always focus on negative aspects, which would affect their way of acting and they would become pessimistic and negative people that would affect work coexistence.

**Table 2.** Level of Critical Thinking

Level	Range	No.	%
Low	41 - 96	13	16 %
<b>half</b>	<b>97- 152</b>	<b>67</b>	<b>84 %</b>
high	153 - 205	00	0 %
Total		80	100 %

*Note:* Questionnaire applied to master's students.

Regarding the level of critical thinking, it was found that students are at an average level with 84%; it can therefore be deduced that the majority of the master's students do not have very strong capacities for clarity, certainty, relevance, logic, justice, progression, depth, breadth and importance. In other words, they need to work more on the capacities to analyze, identify the main ideas, follow logical sequences, critiques, and make a good logical support, among other things. This means that students only manage to identify and recognize knowledge, organize and select facts and ideas and use facts, rules and principles, but they have a hard time separating the whole into parts, combining ideas to form a new one and developing opinions and judgments. Precisely, these limitations are worrying, because critical thinking is important in all management, since it allows analyzing and reflecting on events to make the best decisions.

Likewise, professionals with a high level of critical thinking do not accept things without convincing arguments that guarantee the objectivity of reality. In this sense, the results obtained are almost similar to those of Milla (2012), who showed that the level was low. Therefore, this result corroborates the study, according to which people with a regular or low level of criticality fail to analyze and evaluate the context and accept more easily the proposals of an organization. In this sense, Gilan and Sufian (2014) concluded that the critical thinking of high school students is above average, but it is not significant. These results are similar to those of Lajthia et al. (2014), who concluded that the score was weak in critical thinking skills. It is perceived that the teachers almost do not like to read to strengthen their critical thinking. In this sense, Machuca (2018) concluded that one of the obstacles is the lack of interest in reading among students. Elizalde, et al. (2022) concluded that critical thinking should be considered throughout a student's school career. Khairiah et al. (2023) conducted a study on Covid-19 times focusing on learning in different social classes and the results showed that existing cognitive structural differences are a key factor in analyzing and interpreting information about online discrimination in Indonesian higher education. Furthermore, they indicated that technological equipment and social media influence online learning. While it is true that this study was about learning, it is also related to critical thinking as it is linked to the ability to analyze a context objectively.

Finally, not all the results have been identical, but there was an investigation with opposite results, such is the case of Steffens, et al. (2017) who concluded that, at the Universidad de la Costa CUC, they presented

a high level of criticality, this may be due to the methodological strategies applied by teachers, in which they like to read, to this is added the cultural level of the parents, in which they also have habits at home.

**Table 3.** Relationship Between the Dimension Evasion and Thought Critical - Masters Students in Educational Psychology At UCV, Tarapoto

		Critical thinking	
Spearman's Rho	Evasive	Correlation coefficient	,281*
		Next (bilateral)	,011
		N	80

\*The correlation is significant in it level 0.05 (bilateral)

*Note: Data obtained from Spss V.25*

Regarding the relationship between the dimensions of positive intelligence and critical thinking, it was considered to work on it for each dimension with the variable two for greater clarity. In this sense, regarding the relationship between the "evasive" dimension of positive intelligence and critical thinking, it was found that the Spearman correlation coefficient (Rho) is 0.281 with a p-value of 0.011 indicating that there is a positive and significant relationship; therefore, the p-value (bilateral) obtained is below the required 0.05 ( $p < 5\%$  for a confidence level of 95%) therefore, the null hypothesis is rejected and the alternate hypothesis is admitted. Concluding that there is a low and significant positive correlation between the "evasive" dimension and critical thinking of the Master's students in Educational Psychology at UCV Tarapoto. In addition, 7.89% of variability. It is assumed that the variables in this scenario are independent.

**Table 4.** Relationship Between the Dimension Controller and Thought Critical - Masters Students in Educational Psychology At UCV, Tarapoto

		Critical thinking	
Spearman's Rho	Controller	Correlation coefficient	-,129
		Next (bilateral)	,255
		N	80

*Note: Data obtained from Spss V.25*

Regarding the relationship between the "controller" dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient (Rho) is -0.129 with a p-value of 0.255 indicates that there is a negative relationship, but it is not significant; therefore, the p-value (bilateral) obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%) therefore, the alternate hypothesis is rejected and the null hypothesis is accepted. Then, within the framework of the research, there is a very low negative correlation, but it is not significant between the "controller" positive intelligence and the critical thinking of the Educational Psychology master's students at UCV Tarapoto. In addition, only 1.66% of viability.

**Table 5.** Relationship Between the Dimension Hyper-Achiever and Thought Critical - Masters Students in Educational Psychology At UCV, Tarapoto

		Critical thinking	
Spearman's Rho	Hyperachiever	Correlation coefficient	,281
		Next (bilateral)	,052
		N	80

*Note: Data obtained from Spss V.25*

According to the relationship between the 'hyper achiever' dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is 0.218 with a p-value of 0.052, indicating that there is a positive relationship and it is not significant; therefore, the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%), therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. Thus, in the framework of the research, there is a low positive correlation and it is not significant between the dimension 'achiever' and the critical thinking of the master students of Educational Psychology of the UCV Tarapoto; that is, if the dimension improves, critical thinking will not necessarily improve as well. Furthermore, only 4.75 % of feasibility

**Table 6.** Relationship Between the Hyper-Rational Dimension and Critical Thinking - Masters Students of Educational Psychology At UCV, Tarapoto

		Critical thinking	
Spearman's Rho	Hyper-rational	Correlation coefficient	,130
		Next (bilateral)	,249
		N	80

Note: Data obtained from Spss V.25

Regarding the relationship between the 'hyper-rational' dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is 0.130 with a p-value of 0.249, indicating that there is a positive relationship, but it is not significant, since the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95 %). Thus, in the framework of the research, there is a very low positive correlation, but it is not significant between the 'hyper-rational' dimension and the critical thinking of the master students of Educational Psychology at UCV Tarapoto; that is, if the dimension improves, critical thinking will not necessarily improve as well. Moreover, only 1.66 % of feasibility.

**Table 7.** Relationship Between the Hypervigilant Dimension and Critical Thinking - Master Students of Educational Psychology At UCV, Tarapoto

		Critical thinking	
Spearman's Rho	Hypervigilant	Correlation coefficient	-,073
		Next (bilateral)	,520
		N	80

Note: Data obtained from Spss V.25

Regarding the relationship between the 'hypervigilant' dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is -0.073 with a p-value of 0.520, indicating that there is a negative relationship, but it is not significant; therefore, the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%), therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. Thus, in the framework of the research, there is a very low negative correlation, but it is not significant between the dimension 'hypervigilant' and the critical thinking of the master students of Educational Psychology of the UCV Tarapoto; that is to say, if the dimension improves, critical thinking decreases. In addition, 0.53 % of feasibility

**Table 8.** Relationship Between the Complacent Dimension and Critical Thinking - Master's Students of Educational Psychology At UCV, Tarapoto

		Critical thinking	
Spearman's Rho	Complacent	Correlation coefficient	,144
		Next (bilateral)	,203
		N	80

Note: Data obtained from Spss V.25

Regarding the relationship between the ‘complacent’ dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is 0.144 with a p-value of 0.203, indicating that there is a positive relationship, but it is not significant; therefore, the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%), therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. Thus, within the framework of the research, there is a very low positive correlation, but it is not significant between the ‘complacent’ dimension and the critical thinking of the master's students of Educational Psychology at UCV Tarapoto; that is, if the dimension improves, critical thinking will not necessarily improve as well. Furthermore, only 2% of feasibility

**Table 9.** Relationship Between the Uneasiness Dimension and Critical Thinking - Masters Students of Educational Psychology At UCV, Tarapoto

			Critical thinking
Spearman's Rho	Restless	Correlation coefficient	,115
		Next (bilateral)	,310
		N	80

Note: Data obtained from Spss V.25

Regarding the relationship between the ‘uneasy’ dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is 0.115 with a p-value of 0.310, indicating that there is a positive relationship, but it is not significant; therefore, the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%), therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. Thus, within the framework of the research, there is a very low positive correlation, but it is not significant between the dimension ‘uneasy’ and the critical thinking of the master's students of Educational Psychology at UCV Tarapoto. In addition, only 1.32% of feasibility.

**Table 10.** Relationship Between the Rigorous Dimension and Critical Thinking - Master Students of Educational Psychology At UCV, Tarapoto

			Critical thinking
Spearman's Rho	Rigorous	Correlation coefficient	,204
		Next (bilateral)	,069
		N	80

Note: Data obtained from Spss V.25

Regarding the relationship between the ‘rigorous’ dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is 0.204 with a p-value of 0.069, indicating that there is a positive relationship, but it is not significant; therefore, the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%), therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. Thus, within the framework of the research, there is a low positive correlation, but it is not significant, between the ‘rigorous’ dimension and the critical thinking of the master's students of Educational Psychology at UCV Tarapoto; that is, if the dimension improves, critical thinking will not necessarily improve as well. Furthermore, only 1.41% of feasibility.

**Table 11.** Relationship Between the Victim Dimension and Critical Thinking - Master Students of Educational Psychology At UCV, Tarapoto

			Critical thinking
Spearman's Rho	Victim	Correlation coefficient	,146
		Next (bilateral)	,195

	N	80
--	---	----

Note: Data obtained from Spss V.25

Regarding the relationship between the 'victim' dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is 0.146 with a p-value of 0.203, indicating that there is a positive relationship, but it is not significant; therefore, the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%), therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. Thus, in the framework of the research, there is a very low positive correlation, but it is not significant between the dimension 'victim' and the critical thinking of the master students of Educational Psychology of the UCV Tarapoto. Moreover, only 2.13 % of feasibility.

**Table 12.** Relationship Between the Dimension Rigorous and Critical Thinking - Master Students of Educational Psychology At UCV, Tarapoto

			Critical thinking
Spearman's Rho	Judge	Correlation coefficient	,040
		Next (bilateral)	,725
		N	80

Note: Data obtained from Spss V.25

Regarding the relationship between the 'judge' dimension of positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is 0.040 with a p-value of 0.725, indicating that there is a positive relationship, but it is not significant; therefore, the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%), therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. Thus, in the framework of the research, there is a very low positive correlation, but it is not significant between the dimension 'judge' and the critical thinking of the master students of Educational Psychology at UCV Tarapoto; that is to say, if the dimension improves, critical thinking will not necessarily improve as well. Moreover, only 0.16 % of feasibility.

**Table 13.** Relationship Between Positive Intelligence and Critical Thinking - Masters Students of Educational Psychology At UCV, Tarapoto

			Critical thinking
Spearman's Rho	Positive intelligence	Correlation coefficient	,151
		Next (bilateral)	,181
		N	80

Note: Data obtained from Spss V.25

Regarding the relationship between positive intelligence and critical thinking, it was found that Spearman's correlation coefficient ( $\rho$ ) is 0.151 with a p-value of 0.181, indicating that there is a positive relationship, but it is not significant, since the (bilateral) p-value obtained is above the required 0.05 ( $p < 5\%$  for a confidence level of 95%), therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. Thus, in the framework of the research, there is a very low positive correlation, but it is not significant between positive intelligence and critical thinking of the master's students of Educational Psychology at the UCV Tarapoto; that is, if the dimension improves, critical thinking will not necessarily improve as well. Moreover, only 2.28 % of feasibility.

It is worth mentioning that, as positive intelligence is a new topic that was not found in scientific research, it has not been possible to see its relationship with other variables, which has not happened with critical thinking, since Salazar (2020), demonstrated the existence of a high and significant direct positive linear relationship between critical thinking and academic performance with a Spearman's Rho of 0.735; that is, the higher the levels of critical thinking, the higher the levels of academic performance.



## Conclusions

There is a very low, but not significant, positive relationship between emotional intelligence and critical thinking among students of Educational Psychology at UCV Tarapoto. The Spearman's Rho statistical coefficient is 0.151 with a p-value of 0.181. Therefore, the (bilateral) p-value obtained is above the required 0.05 ( $p < 0.05$  % for a confidence level of 95 %). Furthermore, according to the coefficient of determination ( $R^2$ ), only 2.28 % of critical thinking has viability in positive intelligence. The difference is due to other factors such as character, temperament, emotional intelligence, multi-skills, etc. In this scenario, it is assumed that the variables are independent.

The level of positive intelligence of the master learners is at a medium level, with 95 % confidence; which follows that they are not very analytical, controlling, very successful, very vigilant about their own or others' things they do, so complacent, judgmental, so uneasy, rigorous and so evasive. In the case of victims, this percentage is not so favourable, as everyone must take the consequences of their actions.

The level of critical thinking is medium, with 84 %, which shows that most of the students have not strengthened the skills of clarity, certainty, relevance, logic, justice, procession, depth, breadth and importance; that is to say, they need to work more on the skills to analyse, identify the main ideas, logical and critical sequences, and make a good logical support, among others.

Regarding the relationship between the 'avoidance' dimension of positive intelligence and critical thinking, it was found that the Spearman correlation coefficient (Rho) is 0.281 with a p-value of 0.011, which indicates that there is a positive and significant relationship. Furthermore, the (bilateral) p-value obtained is below the required 0.05 ( $p < 5\%$  for a confidence level of 95%), so the null hypothesis is rejected and the alternative hypothesis is accepted.

There is a very low, but not significant, negative correlation between positive 'controlling' intelligence and critical thinking. Spearman's correlation coefficient (Rho) is -0.129 with a p-value of 0.255, which is above the required 0.05 ( $p < 5$  % at 95 % confidence level). Furthermore, only 1.66 % of critical thinking has viability in the 'controlling' dimension, and the difference is due to the other dimensions of positive intelligence. The variables in this scenario are assumed to be independent.

There is a low and non-significant positive correlation between the 'achiever' dimension and critical thinking, with a Spearman correlation coefficient (Rho) of 0.218 and a p-value of 0.052, which is above the required 0.05 ( $p < 5$  % for a confidence level of 95 %). Furthermore, according to the coefficient of determination ( $R^2$ ), only 4.75 % of critical thinking has a viability in the positive intelligence achiever; the difference is due to the other dimensions of positive intelligence. The variables in this scenario are assumed to be independent.

There is a very low, but not significant, positive correlation between the 'hyper-rational' dimension and critical thinking. Spearman's correlation coefficient is 0.130 with a p-value of 0.249, which is above the required 0.05 ( $p < 0.05$  % for a confidence level of 95 %). Furthermore, according to the coefficient of determination ( $R^2$ ), only 1.66 % of critical thinking has a viability in positive hyper-rational intelligence. The difference is due to the other dimensions of positive intelligence. The variables in this scenario are assumed to be independent.

There is a very low, but not significant negative correlation between the dimension 'hypervigilant' and critical thinking. Spearman's correlation coefficient (Rho) is -0.073 with a p-value of 0.520. Furthermore, according to the coefficient of determination ( $R^2$ ), only 0.53 % of critical thinking has a viability in the 'hypervigilant' dimension. The difference is due to the other dimensions of positive intelligence.

There is a very low, but not significant, positive correlation between the 'complacent' dimension and critical thinking, with a Spearman correlation coefficient (Rho) of 0.144 and a p-value of 0.203, which is above the required 0.05 ( $p < 5$  % for a confidence level of 95 %). Furthermore, according to the coefficient of

determination (R<sup>2</sup>), only 2 % of critical thinking has a feasibility in positive compliant intelligence. The difference is due to the other dimensions of positive intelligence.

There is a very low, but not significant positive correlation between the dimension 'uneasy' and critical thinking, with a Spearman correlation coefficient (Rho) of 0.115 and a p-value of 0.310, which is above the required 0.05 ( $p < 5\%$  for a confidence level of 95 %). Furthermore, according to the coefficient of determination (R<sup>2</sup>), only 1.32 % of critical thinking has a viability in the positive intelligence 'uneasy', the difference is due to the other dimensions of positive intelligence. The variables in this scenario are assumed to be independent.

There is a low, but not significant, positive correlation between the dimension 'rigorous' and critical thinking. Spearman's correlation coefficient (Rho) is 0.204 with a p-value of 0.069, which is above the required 0.05 ( $p < 5\%$  at 95 % confidence level). Furthermore, according to the coefficient of determination (R<sup>2</sup>), only 1.41 % of critical thinking has a viability in the positive intelligence 'rigorous'. The difference is due to the other dimensions of positive intelligence. The variables in this scenario are assumed to be independent.

There is a very low, but not significant positive correlation between the dimension 'victim' and critical thinking. With Spearman's correlation coefficient (rho) of 0.146 with a p-value of 0.203, it is above the required 0.05 ( $p < 5\%$  for a confidence level of 95 %). Furthermore, according to the coefficient of determination (R<sup>2</sup>), only 2.13 % of critical thinking has a viability in the positive intelligence 'victim'. The difference is due to the other dimensions of positive intelligence. The variables in this scenario are assumed to be independent.

There is a very low, but not significant positive correlation between the dimension 'judge' and critical thinking. Spearman's correlation coefficient (rho) is 0.040 with a p-value of 0.725, which is above the required 0.05 ( $p < 5\%$  for a confidence level of 95 %). Therefore, the alternative hypothesis is rejected and the null hypothesis is accepted. In addition, according to the coefficient of determination (R<sup>2</sup>), only 0.16 % of critical thinking has a feasibility on the positive intelligence 'judge'. The difference is due to the other dimensions of positive intelligence. The variables in this scenario are assumed to be independent.

## References

- National Council for Science, Technology and Innovation (2018). Reglamento de calificación, clasificación y registro de los investigadores del sistema nacional de ciencia, tecnología e innovación tecnológica - Reglamento Renacyt. [https://portal.concytec.gob.pe/images/renacyt/reglamento\\_renacyt\\_version\\_final.pdf](https://portal.concytec.gob.pe/images/renacyt/reglamento_renacyt_version_final.pdf)
- Costillero, O (2017). What is critical thinking and how to develop it. <https://psicologiaymente.com/inteligencia/pensamiento-critico>
- Chamine, S. (2013). Inteligencia positiva. <https://alperformacion.com/wp-content/uploads/2019/03/Inteligencia-Positiva.pdf>
- Elizalde, A., Morales, A. and Aguilar, M. (2022). The importance of critical thinking in the training of graphic design students. *Revista Scielo, Zincografía* vol.6 no.11 Guadalajara Apr. 2022 Epub 23-May-2022. [http://www.scielo.org.mx/scielo.php?pid=S2448-84372022000100210&script=sci\\_arttext#B7](http://www.scielo.org.mx/scielo.php?pid=S2448-84372022000100210&script=sci_arttext#B7)
- Facione, P. (2007). Critical Thinking: What is it and why is it important? <http://www.eduteka.org/PensamientoCriticoFacione.php>
- Gil, J., Melendo, A., Fernández, P., López, M. (2016). Critical thinking and education. Spain: Ceasga. <https://dialnet.unirioja.es/servlet/libro?codigo=663579>
- Gilan, R. and Sufian (2024). Examining critical thinking aptitudes of high school students using the W-GCTA test in the context of UAE. *Thinking Skills and Creativity Journal*. 54 (2024), 101509. DOI: <https://doi.org/10.1016/j.tsc.2024.10150>
- Hernández, R., Fernández, C., & Baptista, P. (2014). *Research methodology* (6th ed.). Mexico: Mc Graw Hill Iberdrola (n.d). Critical thinking. <https://www.iberdrola.com/talento/que-es-pensamiento-critico-como-desarrollarlo>
- Gilan, R. and Sufian (2024). Examining critical thinking aptitudes of high school students using the W-GCTA test in the context of UAE. *Thinking Skills and Creativity Journal*. 54 (2024), 101509. DOI: <https://doi.org/10.1016/j.tsc.2024.10150>
- Hernández, R., Fernández, C., & Baptista, P. (2014). *Research methodology* (6th ed.). Mexico: Mc Graw Hill Iberdrola (n.d). Critical thinking. <https://www.iberdrola.com/talento/que-es-pensamiento-critico-como-desarrollarlo>
- INEI (2023). Peru: monitoring and follow-up system for sustainable development goals indicators. <https://ods.inei.gob.pe/ods/objetivos-de-desarrollo-sostenible>

- Khairiah, K., Mubaraq, Z., Mareta, M., Th Musa, D., Naimah, D. and ulistyorini. (2023). Discrimination in online learning during the COVID-19 pandemic in Indonesian higher education. *Journal Of Law And Sustainable Development*. vol. 11 No. 3 (2023). DOI: <https://doi.org/10.55908/sdgs.v11i3.710>
- Lajthia, S., Ley, M. Jordan, J., Haynes, B., Awuonda, M., Habib, M., Karodeh, Y. and Wingate, L. (2024). The impact of critical thinking skills on student pharmacist GPA at a historically Black university. *Journal Currents in Pharmacy Teaching and Learning*. (2024). <https://doi.org/10.1016/j.cptl.2024.04.003>
- Milla, M. (2012). Critical thinking in fifth year secondary school students in the schools of Carmen de la Legua, Callao. [Undergraduate thesis, Universidad San Ignacio de Loyola, Perú. [http://repositorio.usil.edu.pe/bitstream/123456789/1217/1/2012\\_Milla\\_Pensamiento\\_cr%C3%ADtico\\_en\\_estudiantes\\_de\\_quinto\\_de\\_secundaria.pdf](http://repositorio.usil.edu.pe/bitstream/123456789/1217/1/2012_Milla_Pensamiento_cr%C3%ADtico_en_estudiantes_de_quinto_de_secundaria.pdf)
- Machuca, H. (2018). Development of Critical Thinking from a pedagogical strategy based on the Intellectual Standards applied in philosophy for students of 1 A of the Technical Institute Padre Manuel Briceño Jáuregui Fe y Alegría. (Scientific article). *Journal of the Autonomous University of Bucaramanga*. Vol.1. <https://revistas.usantotomas.edu.co/index.php/riiep/article/view/4780/4549>
- Mackay, R., Franco, D. and Willacis, P. (2018). Critical thinking applied to research (Scientific article). *Scielo Journal*. 10(1). Cienfuego. [http://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S2218-36202018000100336](http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2218-36202018000100336)
- Paul, R. & Elder L. (2003). The foundations of Analytical Thinking. <http://www.criticalthinking.org/resources/PDF/SP-Pensamientoanal%C3%ADtico.pdf>
- Paul, R. & Elder L. (2005). Competency Standards for Critical Thinking. [https://www.criticalthinking.org/resources/PDF/SP-Comp\\_Standards.pdf](https://www.criticalthinking.org/resources/PDF/SP-Comp_Standards.pdf)
- Petress, K. (2004). Critical thinking: An extended definition. *Education*, 124(3). Rae (2000), Royal Academy Dictionary.
- Ramón, J. (n.d). How to develop your positive intelligence. [https://aceleratucarrera.com/como-desarrollar-la-inteligencia-positiva/Red de Universidades Anáhuac](https://aceleratucarrera.com/como-desarrollar-la-inteligencia-positiva/Red%20de%20Universidades%20An%C3%A1huac) (2021). Pensamiento crítico y su importancia en tu formación. <https://www.anahuac.mx/blog/pensamiento-critico-y-su-importancia-en-tu-formacion>
- Rodríguez, H. (2021). What is critical thinking? Discover new approaches and be more innovative. <https://www.crehana.com/blog/marketing-digital/que-es-y-para-que-se-usa-el-pensamiento-critico/>
- Salazar, R. (2020). Critical Thinking and academic performance in students of the National and International Reality course of the Faculty of Social Sciences of the José Faustino Sánchez Carrión National University-2018 [Master's thesis. Cayetano Heredia University, Lima, Peru]. [https://repositorio.upch.edu.pe/bitstream/handle/20.500.12866/7816/Pensamiento\\_SalazarMeza\\_Robert.pdf](https://repositorio.upch.edu.pe/bitstream/handle/20.500.12866/7816/Pensamiento_SalazarMeza_Robert.pdf)
- Steffens, E., Ojeda, D., Martinez, O., Garcia, J. Hernandez, H. and Marin, F. (2017). Levels of critical thinking in university students in Barranquilla (Colombia). *Espacio Magazine*. <https://www.revistaespacios.com/a17v38n30/a17v38n30p05.pdf>.