

# MAPPING THE PATHWAYS: UNDERSTANDING THE INTERPLAY BETWEEN RESEARCH ATTITUDES AND INVESTIGATIVE SKILLS IN POSTGRADUATE STUDENTS IN PERU

**Monica Elisa Meneses-La-Riva**

Universidad César Vallejo

Av. Alfredo Mendiola 6232, Los Olivos 15314, Lima, Peru

E-mail address: [mmenesesl@ucv.edu.pe](mailto:mmenesesl@ucv.edu.pe)

ORCID: <https://orcid.org/0000-0001-6885-9207>

**Hitler Giovanni Ocupa-Cabrera**

Universidad César Vallejo

Av. Alfredo Mendiola 6232, Los Olivos 15314, Lima, Peru

E-mail address: [hocupaca@ucv.edu.pe](mailto:hocupaca@ucv.edu.pe)

ORCID: <https://orcid.org/0000-0002-0387-1130>

**Carola Claudia Calvo-Gastañaduy**

Universidad César Vallejo

Av. Alfredo Mendiola 6232, Los Olivos 15314, Lima, Peru

E-mail address: [cgastanaduyc@ucvvirtual.edu.pe](mailto:cgastanaduyc@ucvvirtual.edu.pe)

ORCID: <https://orcid.org/0000-0002-0599-461X>

**Josefina Amanda Suyo-Vega**

Universidad César Vallejo

Av. Alfredo Mendiola 6232, Los Olivos 15314, Lima, Peru

E-mail address: [jsuyov1@ucv.edu.pe](mailto:jsuyov1@ucv.edu.pe)

ORCID: <https://orcid.org/0000-0002-2954-5771>

**Víctor Hugo Fernández-Bedoya**

Universidad César Vallejo

Av. Alfredo Mendiola 6232, Los Olivos 15314, Lima, Peru

E-mail address: [vfernandezb@ucv.edu.pe](mailto:vfernandezb@ucv.edu.pe)

ORCID: <https://orcid.org/0000-0002-2464-6477>

## ABSTRACT

**Aim.** Research attitudes and investigative skills are currently recognised as vital factors for student success in both their academic and professional development, particularly in decision-making. Fostering positive research attitudes and enhancing investigative skills play a pivotal role in bolstering students' academic performance. The primary aim of this study was to investigate the relationship between research attitudes and investigative skills among postgraduate university students.

**Methods.** We conducted a quantitative, descriptive, correlational, cross-sectional, non-experimental study. Our sample comprised 80 master's students in the field of education, selected through a non-probabilistic convenience sampling method in Peru. We employed two validated instruments for data collection: one assessed research attitudes across three dimensions (research disinterest, research vocation, and research valuation), and the other measured investigative competency with two dimensions (methodological skills and generic skills). The instruments demonstrated high reliability, with respective values of 0.88 and 0.81.

**Results.** Our findings revealed a moderate correlation between the variables investigated, indicated by a Spearman's Rho coefficient of 0.595, which was statistically significant at a bilateral level of 0.01. Specifically, we observed correlations of 0.624 in the dimension of research disinterest, 0.569 in research vocation, and 0.538 in research valuation.

**Conclusion.** The study demonstrates a significant and meaningful link between the dimensions of research attitudes and investigative skills in university students. This underscores the importance of nurturing positive research attitudes and enhancing investigative skills in the context of postgraduate education.

**Keywords:** competencies, attitudes, research, graduate student, teaching-learning process

## INTRODUCTION

Throughout history, university education has had a significant impact on the economic activity of countries and an indelible imprint on the formation of diverse professionals, where qualified teachers have a chain effect that extends to the political, social, and economic spheres of nations. The United Nations Educational, Scientific and Cultural Organization (UNESCO) has warned that globally there are 7.8 million full-time teachers engaged in research activities, demonstrating a global growth rate of 21% (UNESCO, 2021).

Furthermore, the Inter-American Development Bank (IDB) announced in its study that 30% of Peruvian teachers indicated that limited internet access was the greatest difficulty in carrying out virtual teaching, while another 35% argued that the lack of connectivity was the biggest obstacle in fulfilling academic tasks online (Arias Ortiz

et al., 2021; Elacqua et al., 2020; Suyo-Vega, Meneses-La-Riva, Fernández-Bedoya, Alarcón-Martínez, et al., 2022). In Latin America, according to statistical data from the national registry of researchers, Peru reported a total of 2,445 research projects according to the National Council of Science, Technology and Technological Innovation (Consejo Nacional de Ciencia Tecnología e Innovación Tecnológica [Concytec], 2019), indicating a low number of research teachers, and a lack of research attitudes and capacities among university students (SUNEDU, 2020).

In this regard, the Ministerio de Educación (MINEDU) proposes the urgent need to strengthen institutional, academic, and personal procedures associated with the acquisition of investigative competencies, whose purpose is to strengthen the investigative and cognitive capacities of students (MINEDU, 2014). Additionally, in Peru, the volume of scientific production is very deficient during undergraduate and graduate academic training (Castro Rodríguez et al., 2018), despite the increasing number of students interested in pursuing university studies. However, reports on scientific production at the national level only register a 2% rate, placing us below Brazil (49%) and Mexico (15%) (MINEDU, 2020).

In Peru, university institutions must provide quality educational services with the purpose of forming students comprehensively, with high professional competencies, focused on research, social responsibility, and in line with the current circumstances and needs of our country (Suvo-Vega, Meneses-La-Riva, Fernández-Bedoya, Ocupa-Cabrera, et al., 2022). However, there is a lack of an investigative approach to education in universities, limiting the development of new inquiries, the perspective, and good predisposition of university students towards research topics that have become regular (Arellano-Sacramento et al., 2017).

Regarding investigative competencies, a study in Spain found regular levels, referring to aspects that reinforced student training such as writing and methods of information collection, despite having deficiencies in citation development, bibliographic search, statistical data, among others (Rubio et al., 2018). In addition, in Peru, graduate students achieved a regular level (77.3%) in cognitive and attitudinal investigative competencies. It is also necessary to assume creative strategies to improve investigative competencies in postgraduates not only to produce knowledge but also to inquire about social welfare (Ayala, 2020; Soto & Hanna, 2020).

Scientific evidence shows the presence of cognitive skills and abilities for collaborative work in respondents, but certain gaps in methodological, technological, and investigative skills. Ultimately, the results expose the need to consolidate teaching processes, so that university students achieve investigative competencies and strengthen their professional field (Vázquez Ramos, 2021). On the other hand, there is an urgent need to update and improve the institution's study programmes, which should integrate the competency-based approach to promote investigative skills and strengthen the university education of future researchers (Zambrano Sandoval & Chacón Corzo, 2021).

Likewise, students have a deficient level of training in investigative capacities related to projects, management of search tools, and dissemination of new knowledge (Cardoso & Cerecedo, 2019). The teaching provided in master's degrees shows that students from different master's programmes have investigative capabilities (Moros Briceño, 2018). In this sense, the disposition towards research and investigative capacities in university students showed that the study dimensions were methodological, personal, investigative, technological, verbal-written communication, and cognitive. It was concluded that the execution of training workshops strengthens the formative process and promotes investigative practices in university students (Ayala, 2020).

In this sense, the conceptual framework establishes that attitude towards scientific research is the favourable or unfavourable attitude an individual has towards scientific work, which is limited to the affective, cognitive, and behavioural aspects. Furthermore, several studies indicate that it is the human predisposition towards a particular thing, and it is linked to the abilities and techniques required for research work, such as information search, previous work, and literature review related to the analysed subject matter (books, articles) (Chara-Saavedra & Olortegui-luna, 2018).

Likewise, this variable is based on Ajzen and Fishbein's Theory of Reasoned Action, which made an essential contribution to the study of human behaviour and a comprehensive analytical model by addressing factors that other theories excluded. Additionally, it is a mixed factors model that includes the subject's beliefs and categorises them as behavioural because they are part of each individual and normative because they occur in groups of belonging, such as attitudes, motivation, and subjective norms, which are conducive to conducting proper research by investigators committed to conducting investigations. In relation to the behaviour of groups and individuals in the current context, it is a mediation proposal because it offers support programmes to provide concrete, effective, and efficient solutions (Siqueira et al., 2022).

Indeed, research attitudes refer to the behaviour that shows the degree of appreciation for it, which can be positive or negative, as it is determined by the individual's set of beliefs that link it to the results and the evaluation of these derivations. However, these attitudes can be reinforced in students during the process, but they already have previous experience, which is the starting point for them to assume a positive and favourable research attitudes (Siqueira et al., 2022).

Moreover, the person's reasoning highlights social pressure because they have assumed a behaviour different from others, clarifying the degree of motivation and significance of the new behaviour adopted. Therefore, subjective norms are determined with two key aspects: the opinions of others about the individual's behaviour, who may think, expect, approve, or desire (normative beliefs), and the person's motivation to adapt to the perceived familiarity of the individuals in their environment or confidence (adjustment motivation). Consequently, attitude is linked to the individual's ability to manage the difficulties that arise during the formative and investigative process, as they are determined by internal (individual competencies) and external

factors (means, dependence on others, and time). Additionally, intention is an individual's attitude of disposition and a direct predecessor of behaviour; therefore, the greater the intention to assume a positive attitude, the greater the likelihood of developing high-impact research studies (Soto & Hanna, 2020).

In this context, the attitude towards research is a psychological attitude that determines the development of competencies, where teacher support during the teaching and learning process of students is decisive for the optimal construction of scientific knowledge (Aldana de Becerra et al., 2020). They also highlight that it can be divided into three subscales:

- Dimension 1. Research disinterest. Refers to the negative disposition that the person assumes with respect to scientific production.
- Dimension 2. Research vocation. It is the predisposition that the person shows to participate in investigative activities within their areas of interest.
- Dimension 3. Research valuation. It is recognising the need to research to respond to social problems and to seek to strengthen a research culture (Aldana de Becerra et al., 2020; Casimiro Urcos et al., 2020).

However, attitudes, even though they change over time, maintain a predictive component that elucidates the developmental contexts of the individual towards a specific object or context, inferring how they will act in response to a situation; therefore, the possible behavioural response is based on the individual's own evaluation (Quezada-Berumen et al., 2019). Attitude is linked to psychological skill and integrates cognitive, affective, and behavioural aspects that induce a certain way of acting and create pleasant or unpleasant thoughts and emotions that validate or reject the object of the action (Casimiro Urcos et al., 2020), as researching is an action to achieve meaningful knowledge and is an essential tool for the formation of competent professionals (Blanco Aliaga, 2017).

On the other hand, university students' research attitude plays a significant role academically, carrying a mental state with responses according to the individual's experience and behaviour in daily situations as mental skill influences the learning process and activates other mediators between the subject and the environment. In addition, the attitude towards research is a tool for analysing quality investigations, which are established during university education and are linked to institutional dimensions such as administrative processes, teachers, scientific and technical aspects, which evaluate the student's will to research. In summary, research attitude incorporates a critical and differentiated perspective regarding the quality of university education, as an opportunity to establish institutional, teaching, and scientific control measures, from the perspective of the student as the administrator of their own training, an active subject, and the central actor of the higher education formative process (Rojas Betancur & Méndez Villamizar, 2017; Ruiz Morales et al., 2017; Valenzuela Santoyo et al., 2021).

Regarding the variable of competencies for research, they are focused on the sense of life and living well, which is a locution of integral human beings perceived as virtuous, perfect, dignified, and cultured individuals; that is to say, people formed for coexistence in the polis and instructed in knowledge, experience, and valuation in the dimensions of (Estrada Molina, 2014).

In the university context, teachers assume the responsibility of promoting appropriate professional competencies in students, where the training that drives the learning process must stimulate the development of cognitive, procedural, and attitudinal capacities for problem-solving. Therefore, teaching the scientific method should be done from the undergraduate level, as research is a transversal and longitudinal axis of skills teaching and a stimulus for the student to take a positive attitude towards inquiry. Furthermore, including competencies in the academic training process generates a research culture that profiles citizens with autonomous criteria, critical, reflective, and analytical thinking, capable of meeting the demands of society (Hernández Navarro et al., 2019).

In this sense, higher education forms students in basic aspects of research, where the dynamics of the processes allow them to generate new knowledge and the opportunity to develop attitudes, skills, abilities, and aptitudes, which will be consolidated in different professions and focused on addressing social demands (Ruiz Morales et al., 2017). From this perspective, higher education seeks to strengthen the formative process with the acquisition of competencies, reflective thinking, critical learning, and knowledge construction, in relation to the real context and the plurality of interests, abilities, etc. (Valenzuela Santoyo et al., 2021).

Regarding this, investigative competencies are based on theory by Sergio Tobón (2013), who supports that competency-based training is a complex process that integrates four types of knowledge: being, doing, knowing, and living together; whose purpose is to seek alternative solutions to social problems or challenges, from an ethical behaviour, where the incorporation of other decisive elements such as motivation, flexibility, innovation, among others, is significant, which are integrated from cognitive processing, persistence, and continuous improvement, with ethical commitment, social responsibility, and society development.

Consequently, the development of competencies for research is the determining ingredient for the improvement of personal and professional activities, because it allows the person to face the advances of today's society with responsibility and to develop a productive way of life. Therefore, the consolidation of skills such as curiosity, problem-solving, creativity, reading and writing, critical thinking, self-directed learning, information management and search, and study habits are essential capacities to form professionals capable of learning to unlearn and relearn, as a way of productive life (Suyo-Vega et al., 2021; Tobón, 2013). On the other hand, to develop investigative competencies, six main knowledge fields are required: processes, complexity, performance, suitability, metacognition, and ethics. Therefore, the development of in-



vestigative skills is a process of great complexity, where cognitive, metacognitive, motivational, personality types, group and individual practices intertwine, allowing individuals to integrate them with other subjects (Estrada Molina, 2014).

In this context, investigative skills encompass knowledge, skills, and attitudes that are grouped in the development of research work (Ortega Rocha & Dipp, 2010). Additionally, it is divided into two sub-scales:

- Dimension 1—Methodological skills, which is a person's ability to face various situations, seeking solutions or alternatives through the research process, and by using skills or competencies in the use of scientific knowledge, handling of statistics and methodologies. Furthermore, the methodological strategy is the set of activities, techniques, and means focused on specific learning objectives and with certain characteristics. It should be noted that methodological competence allows for the identification of concepts, criteria, and procedures for the development of research capacity (Medina Vidaña & Tobón Tobón, 2010).
- Dimension 2—Generic skills, which is the capacity to develop a research idea, writing and inquiry in order to elaborate investigative products that are essential to develop in social environments or dissimilar professional fields such as language skills, computer usage, documentation, statistical packages, writing and composition (Ortega Rocha & Dipp, 2010). Moreover, generic competencies are capacities linked to adaptation to new environments and the willingness to learn throughout life (Ruiz Morales et al., 2017).

Therefore, various studies emphasise the need to develop Research skills during professional training (Estrada Molina, 2014). Research provides graduates with the necessary aptitudes to achieve competencies and carry out projects. However, the acquisition of competencies is focused on social demands, where professionals and/or future researchers develop training responsibly by competencies from theoretical and practical knowledge, as it is linked to the professional profile (Ruiz Morales et al., 2017). Furthermore, learning is associated with the existing context, everyday difficulties, plural interests, skills, etc., because it contributes to the personal and social improvement of the individual (Valenzuela Santoyo et al., 2021).

Given the above, it is evident that local context master's students in education assume the challenge of continuing their studies, pursuing their own self-training and development, to achieve the necessary Research skills and skills, according to current labour, social and academic demands and requirements. In fact, some students completed their undergraduate studies and did not continue studying, revealing a lack of methodological attitudes and skills. Currently, students demand Research skills that allow them to contribute to the resolution of social problems, where the teacher as a facilitator of the educational process is a key piece in the formation of proactive, competent, resilient professionals with soft skills.

A general hypothesis was proposed, along with five specific hypotheses, as detailed in Figure 1.

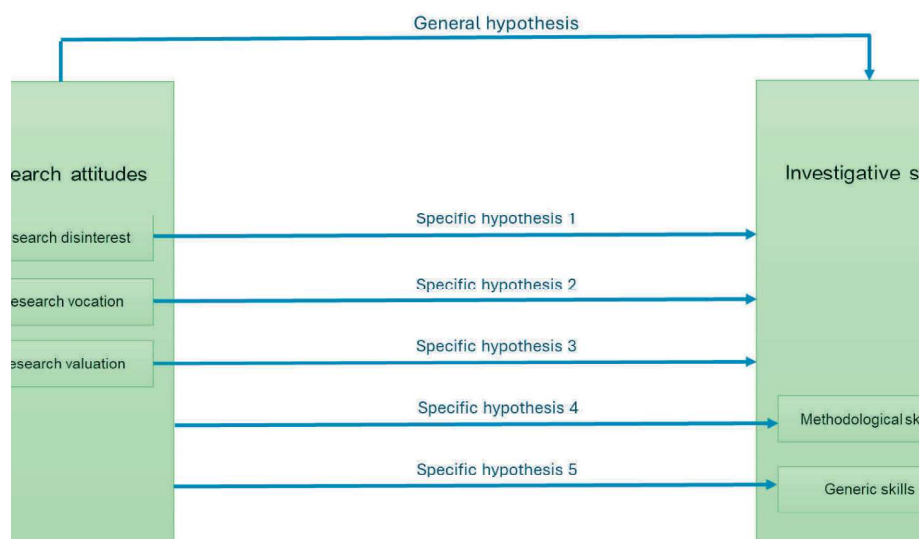
General hypothesis:

- There is a relationship between research attitudes and investigative skills in university students.

Specific hypotheses:

- There is a relationship between research disinterest and investigative skills in university students.
- There is a relationship between research vocation and investigative skills in university students.
- There is a relationship between research valuation and investigative skills in university students.
- There is a relationship between research attitudes and methodological skills in university students.
- There is a relationship between research attitudes and generic skills in university students.

**Figure 1**  
*Proposed Hypotheses*



*Source.* Own research.

## METHODS

Quantitative, descriptive, correlational, cross-sectional, and non-experimental design approach (Hernández-Sampieri & Mendoza Torres, 2018) was used in this study. The sample consisted of 80 master's students enrolled in education programmes in Peru. These participants were selected using a non-probabilistic convenience sampling method. This method was chosen due to accessibility, acknowl-



edging its limitations in terms of generalizability. Nonetheless, the sample provides valuable insights into interplay between research attitudes and investigative skills within this group.

The instrument used was the Research Attitudes Scale—Revised Version (EA-CIN-R), developed by (Aldana de Becerra et al., 2020), validated by eight judges, achieving a V-Aiken1 and a Cronbach's Alpha reliability of 0.87. The researchers adapted it, with 18 items and three dimensions: research disinterest with inverse evaluation (1, 2, 3, 4, 5, and 6); research vocation with direct grading (7, 8, 9, 10, 11, and 12); and research valuation with direct grading (13, 14, 15, 16, 17, and 18). The total score range was 0 to 72, with a high score indicating a positive attitude and a low score indicating an unfavourable research attitudes. The response options were: 0=strongly disagree, 1=disagree, 2=neither agree nor disagree, 3=agree, and 4=strongly agree.

The Investigative Competencies Evaluation Scale was developed by (Ortega Rocha & Dipp, 2010), validated by four judges, achieving a V-Aiken and a Cronbach's Alpha reliability of 0.98. The researchers adapted it, with 34 items and two dimensions: methodological skills, with direct grading of 22 items, and generic skills, with direct valuation of 12 items. The total valuation range was 0 to 136, with a score of 136–103 indicating a high level, 102–68 indicating a regular level, and 67–34 indicating a low level. The response options were: 0=do not possess, 1=possess in a low level, 2=possess, 3=possess in a high level, and 4=possess in a very high level. Both instruments were validated by five experts, and a pilot test was conducted to ensure their reliability.

For the study, voluntary collaboration was requested from the education master's students to apply the study instruments. A form was created using Google Form and sent via WhatsApp with the corresponding link for proper completion. The evaluation was carried out using a statistical programme, where tables and graphs were designed, inferential analysis was performed, and the hypotheses were tested using inferential tests. For the correlational study, the phenomena, facts, or concepts were associated, and the variables and their association were analysed using statistical methods. The link and association with the dimensions were analysed through Spearman's Rho, where the p-value and the degree of correlation between both variables were obtained.

The study was conducted while preserving the confidentiality of all collected information and the respect for the collaborators, ensuring that the data would be used exclusively for the purpose of this investigation. The participants voluntarily agreed to participate without any coercion or other premises that would compromise the legitimacy, truthfulness, and integrity of the publication. All of this was done while respecting the approach underlying the Helsinki Declaration, which requires that all participants be given informed consent, that coercion be avoided, and that the benefits and risks of participation in the investigation be considered.

## RESULTS

Table 1 shows the percentages of investigative attitudes among university students, who achieved a 55% neutral attitude, 30% favourable attitude, and 15% unfavourable attitude. The dimension of disinterest achieved 60% neutral and 40% favourable; in vocation, it achieved 53.75% neutral, 45% favourable, and 1.25% unfavourable; in valuation, it achieved 62.50% favourable, 23.75% neutral, and 13.75% unfavourable.

**Table 1**

*Distribution of Frequencies and Percentages of the Variable Research Attitudes and its Dimensions*

Levels	Research attitudes		Dimension 1: Research disinterest		Dimension 2: Research vocation		Dimension 3: Research valuation	
	N	%	N	%	N	%	N	%
<i>Unfavorable attitude</i>	12	15,0	0	0	1	1.25	11	13.75
<i>Neutral attitude</i>	44	55,0	32	60.0	43	53.75	19	23.75
<i>Favorable attitude</i>	24	30,0	48	40.00	36	45.00	50	62.50
<i>Total</i>	80	100	80	100	80	100	80	100

Source. Own research.

Table 2 shows the percentages of investigative competencies in students, who achieved an 87.50% intermediate level, 11% high level, and 1.25% low level. In the dimension of methodological competencies, it achieved 65% intermediate level, 18.75% high level, and 16.25% low level; in generic competencies, it obtained 90% intermediate level, 7.50% high level, and 2.50% low level.

**Table 2**

*Distribution of Frequencies and Percentages According to the Variable Investigative Skills and their Dimensions*

Levels	Investigative skills		Dimension 1: Methodological skills		Dimension 2: Generic skills	
	N	%	N	%	N	%
<i>Low</i>	1	1.25	13	16.25	2	2.50
<i>Medium</i>	70	87.50	52	65.00	72	90.00
<i>High</i>	9	11.25	15	18.75	6	7.50
<i>Total</i>	80	100	80	100	80	100

Source. Own research.

Table 3 shows the general hypothesis contrast: There is a relationship between research attitudes and investigative skills, with a  $\rho = 0.595$ , resulting in a moder-

ate relationship, a p-value of 0.001, and significance of 0.01 (two-tailed). Therefore, it is established that the higher the skill of research attitudes, the higher the level of investigative skills. The null hypothesis is rejected, and the proposed hypothesis is accepted, concluding that there is a significant correlation between research attitudes and investigative skills in university students.

**Table 3**

*Correlation Coefficient and Significance between Research Attitudes and Investigative Skills*

Hypothesis	Variable * Dimensions	Spearman's Rho	Bilateral Significance	Intensity of the correlation
General Hypothesis	Research attitudes* Investigative competencies	0.595	0.000	Moderate Correlation

Source. Own research.

Table 4 shows the specific hypothesis testing: There is a relationship between research disinterest, research vocation, research valuation and investigative skills in university students. It shows a correlation of Rho = 0.624, 0.569 and 0.538, a p-value of 0.000, and significance of 0.01 (two-tailed). Therefore, it is affirmed that the higher the research disinterest, research vocation, and research valuation, the higher the investigative skills. Thus, the null hypothesis is rejected, and the proposed hypothesis is validated, concluding that there is a significant connection between investigative competencies and the dimensions.

**Table 4**

*Correlation Coefficient and Significance between Research Attitudes and Investigative Skills*

Hypothesis	Variable * Dimensions	Spearman's Rho	Bilateral Significance	Intensity of the correlation
Specific Hypothesis 1	Research disinterest * Investigative skills	0.624	0.000	Moderate Correlation
Specific Hypothesis 2	Research vocation * Investigative skills	0.569	0.000	Moderate Correlation
Specific Hypothesis 3	Research valuation * Investigative skills	0.538	0.000	Moderate Correlation

Source. Own research.

Table 5 shows the testing of specific hypotheses: There is a relationship between research attitudes and methodological skills and generic skills in university students. A moderate correlation is observed, with Rho = 0.663 and 0.538, a p-value of 0.000, and significance of 0.01 (bilateral), indicating that greater research attitudes lead to higher levels of methodological and generic skills. Therefore, the null hypothesis is rejected, and the proposed hypothesis is accepted, concluding that there is a moderate and direct relationship between research attitudes and methodological and generic skills.

**Table 5**

*Correlation coefficient and significance between research attitudes and dimensions of research attitudes.*

Hypothesis	Variable * Dimensions	Spearman's Rho	Bilateral Significance	Intensity of the correlation
Specific Hypothesis 4	Research attitudes *Methodological skills	0.663	0.000	Moderate Correlation
Specific Hypothesis 5	Research attitudes *Generic skills	0.538	0.000	Moderate Correlation

*Source.* Own research.

Therefore, it is concluded that moderate correlations were identified in all the hypotheses proposed by the authors.

## DISCUSSION AND CONCLUSIONS

Research is an activity that has been gaining strength in recent years, allowing for the advancement of science, and seeking timely solutions to emerging difficulties in society at a global level. Therefore, the skill of research attitudes allows individuals to strengthen various abilities and capacities for the development of scientific activity.

The study showed that graduate students have an unfavourable and neutral research attitudes of 70%, while a favourable research attitude only 30%. On the other hand, in the dimensions of research disinterest and research vocation, a neutral attitude prevails (60% and 54%) and a favourable attitude (40% and 45%) respectively, while in the dimension of research valuation, the findings show the predominance of a favourable attitude (62.5%). These results coincide with the research of Edgar O. Cardoso and Maria T. Cerecedo (2019), who found a deficient level in the formation of investigative capacities in relation to projects, didactic tools, management, and promotion of new knowledge.

In relation to the above, the theory of Rational Action indicates that human behaviour is a model of mixed factors and includes the belief of individuals, who assume positive or negative behaviour towards habitual scenarios or actions, and normative because they occur in groups of belonging, such as attitudes, motivation, and subjective norms, which lead to the practice of appropriate behaviour by researchers, who must investigate and create new knowledge that will strengthen science and respond to social needs, with an improvement in professional practice (Siqueira et al., 2022).

Based on the evidence found, it is deduced that graduate students, if they do not show a responsible attitude, predisposition, and positive attitudes, the identified adverse situations will become limiting elements for the development of research topics. It should be noted that postgraduate training should emphasise solid and quality professional training, with the aim of enhancing its value, strengthening work activity, enhancing experi-

ence, stimulating creativity and curiosity with the development of new knowledge, which will ultimately promote investigative practices in the academic and work environment.

Regarding investigative skills, a medium level prevails with 87.50% and high level with 11.25%; in the methodological skills and generic skills dimensions, a medium level (65% and 90%) and high level (19% and 8%) are obtained, respectively. These results are consistent with those found by (Soto & Hanna, 2020), who found a moderate level of Research skills not only for producing knowledge but also for consulting information. In this context, Vargas (2019) found deficiencies in investigative skills, highlighting the need to use better and broader didactic strategies during teaching, leading students not only to handle theoretical content, but also to develop suitable investigative skills.

Based on the evidence, it can be concluded that the strategies used by teachers in research matters are fundamental to acquiring Research skills not only for handling information but also for motivating intellectual performance and sharing practices that contribute to social prosperity. In this regard, Tobón's theory of the development of Research skills (Tobón, 2013) emphasises the need to develop in individuals reflective and critical thinking to stimulate and promote self-directed learning, with a creative sense that fosters reading and writing skills, scientific rigour with data exploration at a scientific level, and Research skills that are essential to train professionals capable of learning to unlearn and relearn as a productive way of life in their personal and professional development.

The research aimed to determine the correlation between research attitudes and investigative skills of postgraduate students. The findings show a moderate correlation of  $Rho = 0.595$ . These results are similar to those found by Marcos José Paico Ruiz (2021), who evidenced a significant, moderate, and direct relationship ( $Rho = 0.559$ ,  $p < 0.001$ ) between research attitudes and investigative skills, where latent discrepancies were found. Moreover, a positive and moderate connection was found in the dimensions of research attitudes and investigative skills.

Likewise, attitudes and investigative skills are two elements that make a difference because, based on positive or negative experiences, students can set goals and objectives to strengthen their academic and professional development Gloria Marlen Aldana de Becerra et al. (2020). In this sense, reasoning and investigative competency theories argue that individuals must expand their willingness to express their vocation of service, whose interest will be to value scientific research from the perspective of society's development. Highly qualified professionals must respond with knowledge, technical skills, and experience to solve everyday problems.

Regarding determining the relationship between research disinterest, research vocation, research appreciation and investigative skills in master's students, a significant and moderate correlation was found (0.624, 0.569, and 0.538). These results are similar to those found by Otto Ayala (2020), who found a statistically positive connection between investigative attitudes and skills since they negatively influence the behavioural, cognitive, and affective attitude of the person. Therefore, it is deduced that disinterest in investigative work in most master's students is due to the mistaken perception of it as a complex

activity. Additionally, teachers must stimulate and train experienced students because they are the future of modern society. The sum of appropriate capacities for the mastery of exploratory processes requires greater commitment, training, and responsibility to expand investigative skills.

Subsequently, Aldana de Becerra et al. (2020) argue that attitude is a psychological factor that individuals possess, and teacher support is essential to achieve a positive or negative experience for the teaching-learning process's development. It is of utmost importance to apply methodological strategies to improve investigative competency in students to create critical and reflective thinking for decision-making.

On the other hand, when establishing the link between investigative attitudes and methodological and generic competencies in master's students, a moderate correlation was found (0.663 and 0.538). These results coincide with the findings of Nemecio Núñez Rojas (2019), who showed that methodological, personal, investigative, technological, verbal and written communication, and cognitive dimensions are related to a higher level of university students' training during their formative process and the development of skills to improve investigative practices.

In conclusion, various authors such as Aldana de Becerra et al. (2020) and Tobón (2013) indicate that it is significant to increase appropriate investigative skills in students to promote suitable capacities for analysis, management, and information processing with the aim of seeking solutions to social problems based on a scientific methodology that is evidence-based and assumes ethical practices to maintain good professional and personal development.

## REFERENCES

- Aldana de Becerra, G. M., Babativa, D. A., Caraballo, G. A., & Rey, C. A. (2020). Escala de actitudes hacia la investigación (EACIN): Evaluación de sus propiedades psicométricas en una muestra colombiana. *Revista CES Psicología*, 13(1), 89–103. <http://dx.doi.org/10.21615/cesp.13.1.6>
- Arellano-Sacramento, C., Hermoza-Moquillaza, R., Elías-Podestá, M., & Ramírez-Julca, M. (2017). Actitud hacia la investigación de estudiantes universitarios en Lima, Perú. *Revista de La Fundación Educación Médica*, 20(4), 191–197. <http://dx.doi.org/10.33588/fem.204.901>
- Arias Ortiz, E., Bornacelly, I., & Elacqua, G. (2021). *Hablemos de política educativa en América Latina y el Caribe #6: Educación superior en América Latina: ¿Cómo las crisis económicas de las últimas décadas han afectado la matrícula?* Banco Interamericano de Desarrollo (BID). <https://eduteka.icesi.edu.co/articulos/bid-%20hablemos-de-politica-educativa-6-crisis-economicas-ultimas-decadas-han-afectado-la-matricula>
- Ayala, O. (2020). Competencias informacionales y competencias investigativas en estudiantes universitarios. *Revista Innova Educación*, 2(4), 668–679. <https://doi.org/10.35622/j.rie.2020.04.011>
- Blanco Aliaga, M. R. (2017). Estilos de aprendizaje y actitudes ante la investigación científica en estudiantes universitarios. *Investigación & Desarrollo*, 25(2), 82–99. <https://doi.org/10.14482/index.25.2.10960>
- Cardoso, E. O., & Cerecedo, M. T. (2019). Valoración de las Competencias Investigativas de los Estudiantes de Posgrado en Administración. *Formación Universitaria*, 12(1), 35–44. <https://doi.org/10.4067/s0718-50062019000100035>
- Casimiro Urcos, W., Casimiro Urcos, C., & Casimiro Urcos, J. (2020). Los posgrados y la investigación científica en las universidades peruanas. *Mendive. Revista de Educación*, 18(1), 150–165. <https://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/1876>



- Castro Rodríguez, Y., Sihuay-Torres, K., & Perez-Jiménez, V. (2018). Scientific production and perception of research by students of dentistry. *Educacion Medica*, 19(1), 19–22. <https://doi.org/10.1016/j.edumed.2016.11.001>
- Chara-saavedra, P., & Olortegui-luna, A. (2018). Factores asociados a la actitud hacia la investigación en estudiantes universitarios de enfermería Factors associated with the attitude toward research in university nursing students. *Investigacion y Casos En Salud*, 3(2), 83–88. <https://doi.org/10.35626/casus.2.2018.73>
- Consejo Nacional de Ciencia Tecnología e Innovación Tecnológica (Concytec). (2019). *Principales indicadores bibliométricos de la actividad científica peruana 2012–2017*. Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica – Concytec. <https://repositorio.concytec.gob.pe/entities/publication/0edf1747–8e16–4f54–9756–0dd45feaf868>
- Elacqua, G., Navarro-Palau, P., Prada, M. F., & Soares, S. (2020). *Hablemos de política educativa en América Latina y el Caribe #5: Educación a distancia, semipresencial o presencial: ¿Qué dice la evidencia?* <https://doi.org/10.18235/0002998>
- Estrada Molina, O. (2014). Sistematización teórica sobre la competencia investigativa. *Revista Electrónica Educare*, 18(2), 177–194. <https://doi.org/10.15359/ree.18–2.9>
- Hernández Navarro, M., Panunzio, A. P., Daher Nader, J., & Royero Moya, M. Á. (2019). Las competencias investigativas en la educación superior. *YACHANA Revista Científica*, 8(3), 71–80. <https://doi.org/10.62325/10.62325/yachana.v8.n3.2019.610>
- Hernández-Sampieri, R., & Mendoza Torres, C. P. (2018). *Metodología de la investigación. Las rutas cuantitativa, cualitativa y mixta*. McGraw-Hill.
- Medina Vidaña, E., & Tobón Tobón, S. (2010). Formación integral y competencias. Pensamiento complejo, currículo, didáctica y evaluación. *Revista Interamericana de Educación de Adultos*, 4(1), 9–23. <https://revistas.crefal.edu.mx/rieda/images/rieda-2010–2/resenas1.pdf>
- Ministerio de Educación [MINEDU]. (2014, July). *Ley Universitaria No 30220*. [https://www.minedu.gob.pe/reforma-universitaria/pdf/ley\\_universitaria\\_04\\_02\\_2022.pdf](https://www.minedu.gob.pe/reforma-universitaria/pdf/ley_universitaria_04_02_2022.pdf)
- Ministerio de Educación [MINEDU]. (2020, August). *Aprueban la Política Nacional de Educación Superior y Técnico-Productiva SEPARATA ESPECIAL*. <https://busquedas.elperuano.pe/dispositivo/SE/1880458–1>
- Moros Briceño, J. A. (2018). Evaluación de las competencias investigativas en los estudiantes de maestría de la Universidad Nacional Experimental del Táchira mediante el uso de modelos de regresión multinivel. *Eco Matemático*, 9(1), 51–64. <https://doi.org/10.22463/17948231.1670>
- Núñez Rojas, N. (2019). Enseñanza de la competencia investigativa: percepciones y evidencias de los estudiantes universitarios. *Espacios*, 40(41), 41–68. <https://www.revistaespacios.com/a19v40n41/a19v40n41p26.pdf>
- Ortega Rocha, E., & Dipp, A. J. (2010). Escala de evaluación de competencias investigativas. *Praxis Investigativa ReDIE: Revista electrónica de la Red Durango de Investigadores Educativos*, 2(3), 72–75. <https://dialnet.unirioja.es/servlet/articulo?codigo=6534523>
- Paico Ruiz, M. J. (2021). *Actitud hacia la investigación científica y las competencias investigativas en estudiantes de Posgrado en Universidades de Lima, 2020*. [Masters dissertation, Universidad Peruana Unión]. Repositorio institucional de la Universidad Peruana Unión. <https://repositorio.upeu.edu.pe/items/562ec180-f357-434f-b250-e0f1f89d2ac5>
- Quezada-Berumen, L., Moral de la Rubia, J., & Landero-Hernández, R. (2019). Validación de la Escala de Actitud hacia la Investigación en Estudiantes Mexicanos de Psicología. *Revista Evaluar*, 19(1). <https://doi.org/10.35670/1667–4545.v19.n1.23874>
- Rojas Betancur, H. M., & Méndez Villamizar, R. (2017). Procesos de formación en investigación en la Universidad: ¿Qué le queda a los estudiantes? *Sophia*, 13(2), 53–69. <https://doi.org/10.18634/sophiaj.13v.2i.261>
- Rubio, M. J., Torrado, M., Quirós, C., & Valls, R. (2018). Autopercepción de las competencias investigativas en estudiantes de último curso de pedagogía de la universidad. *Revista Complutense de Educación*, 29(2), 335–354. <https://doi.org/10.5209/RCED.52443>
- Ruiz Morales, Y. A., Biencinto López, C., García García, M., & Carpintero, E. (2017). Evaluación de competencias genéricas en el ámbito universitario a través de entornos virtuales: Una revisión narrativa. *RELIEVE — Revista Electrónica de Investigación y Evaluación Educativa*, 23(1), Article 2. <https://doi.org/10.7203/relieve.23.1.7183>

- Siqueira, M. S. S., Nascimento, P. O., & Freire, A. P. (2022). Theory of Planned Behaviour. *Disability, CBR and Inclusive Development*, 33(1), 52–68. <https://doi.org/10.47985/dcidj.475>
- Soto, M., & Hanna, S. (2020). Development of Investigative Skills Participants in Master Organizational. *Revista Académica*, 4(1), 108–128. <https://revistas.ulatina.edu.pa/index.php/genteclave/article/view/121>
- SUNEDU. (2020). *III Informe Bienal sobre la Realidad Universitaria en el Perú* <https://www.gob.pe/institucion/sunedu/informes-publicaciones/2824150-iii-informe-bienal-sobre-la-realidad-universitaria-en-el-peru>
- Suyo-Vega, J. A., Meneses-La-Riva, M. E., & Fernández-Bedoya, V. H. (2021). Miradas divergentes sobre la metodología virtual universitaria. *3C TIC: Cuadernos de Desarrollo Aplicados a Las TIC*, 10(1), 69–91. <https://doi.org/10.17993/3ctic.2021.101.69-91>
- Suyo-Vega, J. A., Meneses-La-Riva, M. E., Fernández-Bedoya, V. H., Alarcón-Martínez, M., Ocupa-Cabrera, H. G., Alvarado-Suyo, S. A., Polonia, A. da C., & Miotto, A. I. (2022). Educational policies in response to the pandemic caused by the COVID-19 virus in Latin America: An integrative documentary review. *Frontiers in Education*, 7, Article 918220. <https://doi.org/10.3389/feduc.2022.918220>
- Suyo-Vega, J. A., Meneses-La-Riva, M. E., Fernández-Bedoya, V. H., Ocupa-Cabrera, H. G., Alvarado-Suyo, S. A., da Costa Polonia, A., Miotto, A. I., & Gago-Chávez, J. de J. S. (2022). University teachers' self-perception of digital Research skills. A qualitative study conducted in Peru. *Frontiers in Education*, 7, Article 1004967. <https://doi.org/10.3389/feduc.2022.1004967>
- Tobón, S. (2013). *Formación integral y competencias. pensamiento complejo, currículo, didáctica y evaluación* (4th ed.). <https://cife.edu.mx/recursos/formacion-integral-y-competencias-pensamiento-complejo-curriculo-didactica-y-evaluacion/>
- UNESCO. (2021, June 15). *Aumenta la inversión en investigación y desarrollo en el mundo, pero continúa muy concentrada*. <https://www.unesco.org/es/articles/aumenta-la-inversion-en-investigacion-y-desarrollo-en-el-mundo-pero-continua-muy-concentrada>
- Valenzuela Santoyo, M. E., Valenzuela Santoyo, A. del C., Reynoso González, O. U., & Portillo Peñuelas, S. A. (2021). Habilidades investigativas en estudiantes de posgrado en Educación. [Special issue]. *Dilemas Contemporáneos : Educación, Política y Valores*, 14(1), 1–13. <https://doi.org/10.46377/dilemas.v8i.2766>
- Vázquez Ramos, A. (2021). Autovaloración de las competencias investigativas en los estudiantes de maestrías en educación. *Ciencia Latina Revista Científica Multidisciplinar*, 5(1), 280–293. [https://doi.org/10.37811/cl\\_rcm.v5i1.225](https://doi.org/10.37811/cl_rcm.v5i1.225)
- Zambrano Sandoval, H. J., & Chacón Corzo, C. T. (2021). Competencias investigativas en la formación de posgrado. Análisis cualitativo. *Revista Educación*, 45(2). <https://doi.org/10.15517/revedu.v45i1.43646>