



## Research Article

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# Factors that Influence Thesis Writing in a Public University

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## Abstract

*Thesis writing during undergraduate studies is one of the most important undergraduate achievements given that students receive their degrees based on this work. Therefore, the objective of our research was to characterize different thesis writing factors in a public university. We used a mixed-methods approach that included a questionnaire and interview questions. The population was 448 students and the final sample included 208 students from the Faculty of Education at a large state university in Peru. For the questionnaire, Cronbach's Alpha showed a reliability of 0.80. Meanwhile the construct reliability was measured with the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and was 0.74. Results showed that perceptions about thesis writing factors were medium (40.4%). Regarding personal factors showed a medium level of 44.2%, and students indicated that they had little time to elaborate their theses mostly because of work. Academic factors showed a medium level of 38.9%, and students manifested that they apply what they have learned in research courses, that their one-on-one consulting has been effective, and that they have good knowledge of APA, writing skills and use of Mendeley or Zotero. Finally, institutional factors were medium at 39.3%, and students expressed that although institutional standards do exist for thesis writing, they lack adequate diffusion. Also, students mentioned courses given by the library, among other factors.*

**Keywords:** degree, undergraduate, education, physical education, dissertation

## 1. Introduction

In Peru, to obtain an undergraduate degree, students must elaborate and defend a thesis or dissertation, according to the University Law 30220 (2014), and reflected in university policies (UNMSM, 2016). Regarding these theses, Castro-Rodríguez (2023), says that elaborating a thesis means that students can acquire research competencies related to critical thinking, searching academic sources, data analysis, information synthesis, and decision-making based on evidence (p. 23). In the same way, the thesis is considered as a merit for the student, as well as the university and country (Capa-Luque et al., 2022, p. 219).

The thesis is an academic endeavor linked with research and is presented to obtain academic degrees or titles (Mamani, 2015). It also represents the culmination of a student's career and shows that he/she is capable of writing a research report. At the same time, it is not only an individual effort, however an institutional one as well, being one indicator of quality management. Therefore, it is necessary to review institutional policies, infrastructure, standards, and other factors that influence and favor thesis writing.

In addition, for undergraduate students in education, the thesis represents an opportunity to research topics related to their field of study: the teaching-learning process at different levels and specialties, administrative and educational management aspects, educational policies, and more. These aspects will provide them with a more critical vision of the educational landscape, how to act on it, what aspects to include and/or exclude in a study, and how to contribute to the improvement of knowledge and society.

Tapia-Ladino et al. (2016) state that the thesis writing process involves the students, advisors, and the institution that supports them. In this sense, there are studies that seek to investigate the factors that influence thesis writing, such as the study by Soto (2020) in Paraguay, which refers to the existence of personal, academic, and institutional factors. This study found that the main factor that makes thesis writing difficult is methodological aspects.

There are also cognitive-affective factors in thesis writing such as academic self-efficacy and commitment (Capa-Luque et al., 2022, p. 218). Regarding the personal factors that influence the thesis writing process, it is necessary to consider cognitive and methodological aspects: such as the motivation to carry out tasks with constancy and dedication, while attitude is linked to feelings manifested in the way each individual acts (Rietveldt & Vera, 2012, p. 112). In addition, Castro-Rodríguez (2023) observed that a better mood and attitude for carrying out the research is crucial for effective thesis writing.

Taking into account academic factors, a study found that dentistry students at the a large state university in Peru had to modify their research techniques, 15% had to adapt environments for the execution of in vitro experiments, 44% had to hold more frequent meetings with advisors and friends virtually, and 82% had to plan the writing of the thesis with more time (Castro-Rodríguez, 2023, p. 26), all of this during the Covid-19 pandemic.

Similarly, Álvarez & Difabio de Anglat (2017), in a study at Argentine universities, revealed that group work favored the "metalinguistic reflection process around the postgraduate thesis" (p. 51). In a study about research at a university in the Philippines, Pangket et al. (2023) mention that students lacked research skills and had different activities that made it difficult for them to carry out their research work. In addition, Perdomo & Morales (2018) in a mixed-methods study that consisted of thesis reviews reported that there were difficulties associated with research and academic writing skills (p. 4), as well as difficulties in how to use references in APA or Vancouver style; and attitudes towards statistics and research methodology skills (Capa-Luque et al., 2022, p. 217).

Regarding institutional factors, there are regulatory and administrative aspects that must be disseminated, updated, and clarified so that students can have security and confidence in the preparation of their theses. Additionally, the aspects of research courses, thesis advisors, and thesis advising must be regulated, especially in terms of research experience. This is because some students revealed that advisors had little experience in scientific research and had to approach it from a

methodological and formal point of view, according to Perdomo & Morales (2018). These authors also concluded that advisors' trajectory must be verified by their scientific productivity and the communication of their results. Soto, (2020) refers to the need for financial assistance or scholarships, adequate infrastructure, optimal management processes such as more frequent advising, as this is beneficial for the preparation of theses. Likewise, research lines must be relevant, disseminated, and updated so that they can contribute to an adequate orientation in the preparation of said text (Criado et al., 2022).

The current study is important because it gives insights about factors that influence the preparation of undergraduate theses by students at the Faculty of Education at a large state university in Peru. This is because the thesis has been the only legal way to attain a degree since 2014. It is important to note that before the law regarding theses, there were few theses in this faculty (Nuñez & Vega, 2011), because students received their degrees through taking advanced courses. Hence, it is important to study and understand the factors that affect thesis writing, considering the educational practices of teachers, advisors and authorities.

Using a mixed-methods standpoint, including questionnaires and interviews can offer a better understanding about factors influencing thesis writing, from the different point of views given by the participants. This is especially noteworthy because there is a lack of mixed-methods studies about this issue. In this manner, we will be able to delve deeper into challenges and limitations that students face when writing their theses.

Therefore, we formulated the following research questions:

1. How are factors associated with thesis writing characterized, and at what level in a public university?
2. On what level are personal, academic and institutional factors characterized during thesis writing?

## 2. Materials and Methods

This is basic research because it looks to broaden knowledge about a certain field (Hernández et al., 2014; OECD, 2015). In this case, our study looks to better comprehend thesis writing by undergraduate students in an education major at a public university. The study uses a mixed-methods approach, obtaining information from quantitative and qualitative data (Hernández & Mendoza, 2018). According to some authors such as Creswell JW & Plano (2013, cited in Guedes et al., 2017) and Doorenbos (2014), uphold that a mixed-methods design can give a more robust understanding of a problem, than only a quantitative- or qualitative-only design.

Hernández & Mendoza (2018) establish criteria for applying a mixed focus: *priority of one focus over another*, and in this case the quantitative results will take priority over the qualitative results. Another criterion is *the sequence of application of the data collection instruments*, and whether it is simultaneous or concurrent. In this case, it is simultaneous given that the questionnaires and the interviews were conducted at the same time. Yet another criterion is *the final objective of the mixed method*. Here, it is the robustness and clarity of the results obtained from using a mixed methods approach. Finally, the last criterion is how the *integration of both foci is carried out*, and for this criterion we used a concurrent triangulation design.

### 2.1 Population and sample

The population consists of students in the tenth cycle of the Professional Schools of Education (EPE) and the Professional School of Physical Education (EPEF) of the FE of the UNMSM, who completed their studies in January 2022. The quantitative and qualitative sample is shown in Table 1.

**Table 1:** Population and samples

Population		Samples quantitative				Samples qualitative		
EPE		EPEF	EPE		EPEF	EPE		EPEF
Initial	41	250	Initial	19	116	Initial	5	13
Primary	42		Primary	20		Primary	3	
Secondary	115		Secondary	53		Secondary	11	
Biology and chemistry (BQ)	2		(BQ)	1		(BQ)	1	
Mathematics and physics (MP)	40		(MP)	19		(MP)	4	
Philosophy tutoring and social sciences (PTSC)	5		(PTSC)	2		(PTSC)	1	
English and Spanish (SP)	8		(SP)	4		(SP)	1	
Language, literature and communication (LLC)	31		(LLC)	14		(LLC)	3	
History and geography (HG)	29		(HG)	13		(HG)	1	

### 2.2 Data collection

The faculty provided us with the email addresses, names, classrooms, and schedules of the teachers. We used this data and shared the questionnaire via Google Forms. Additionally, there was an item that asked students who were interested in participating in the interview to register their data, so that we could contact them. Both instruments were completed in 2022.

### 2.3 Instruments

The questionnaire was composed of the following dimensions:

*Personal factors:* time, economy, family, and motivation (3, 2, 2, and 2 items, respectively).

*Academic factors:* research courses and research skills (2 and 11 items, respectively).

*Institutional factors:* infrastructure, library, regulations, research courses, economy, and advising (2, 4, 8, 2, 2, and 2 items, respectively).

The interview script was composed of three subcategories: personal factors, academic factors, and institutional factors (5, 5, and 8 items, respectively).

### 2.4 Validity and reliability

The validity and reliability of both instruments were obtained through the evaluation of five experts in the field of education. Some improvements were made to the wording of the items. A pilot test of the interview script was also conducted with four students to improve the items.

For reliability of the thesis writing questionnaire, data were analyzed as a whole to test reliability levels. The Cronbach's alpha coefficient was 0.80, which is considered adequate. Additionally, the dimensions reached values greater than 0.50, which allowed them to remain part of the questionnaire, indicating that the test is reliable. In the same way, an exploratory factor analysis was conducted for construct validity, with the Kaiser-Meyer-Olkin measure of sample adequacy scoring 0.74, expressing consistency in its construction. This score has an important explanatory level, supported by the results of the Bartlett's sphericity test, presenting a significant value of 78.58% of the total variance.

### 3. Results

Considering that this research was a mixed approach, the quantitative results from the questionnaire will be presented first, and then the information obtained from the interview will be explored in more depth. Regarding the questionnaire, the three dimensions will be presented along with their respective indicators: personal factors with indicators such as: time, economy, family, and motivation; academic factors with research courses and research skills; and institutional factors with infrastructure, library, regulations, research courses, financial aid and advising. Additionally, a Likert scale was applied, with values such as: five for very frequently; four for frequently; three for occasionally; two for rarely; and one for never.

First, it is necessary to mention that the perception of thesis preparation in students has a predominant medium level (40.4%), followed by a low level (30.2%), and a high level (29.5%). Additionally, about the perception of personal factors, students report the existence of a medium level (44.2%); then, a low level (30.9%); and finally, a high level (24.9%). With regard to the indicator time, they report that they occasionally alternate their academic work schedule with the thesis (39.6%); organize their time (45.3%), and consider that they invest enough time (40.4%), in the preparation of the thesis. Additionally, they report that they have little time to complete the thesis, because they work, and they have time at night or on weekends, or in their free time. This could be because, being students of the tenth cycle, many of them (if not to say most), study and work, which is why, even so, they report that they invest time in completing it.

For *economic* factors, we observed that rarely (37.5%), can students buy or rent material or other items for the preparation of the thesis; and that occasionally (35.8%), they mention that their economic condition would allow them to pay administrative fees. Furthermore, these economic conditions influence the elaboration of their research and the acquisition of books or other materials. Participants specified that these students work and have responsibilities at home; they also work as teachers in schools, yet they still do not have their bachelor's degree, and schools that offer a better remuneration usually require a completed degree.

The *family* indicator expresses a predominance that family is a main motivator of finishing the thesis (31.6%). Regarding this, students report that there is a relative motivation on the part of their family for the preparation of the thesis. Additionally, they report that they do not have major family responsibilities that make it difficult or impossible for them to write their thesis. The quantitative aspects of personal factors are visible in more detail in Table 2.

**Table 2:** Perception levels of personal factors (in percentages)

Items	1	2	3	4	5
Time					
I alternate my work and/or academic day with the thesis writing	4.2	21.1	39.6	27.7	7.4
I organize my time to write my thesis	3.9	17.2	45.3	28.8	4.9
The time I invest in the thesis writing process is adequate	7.7	34.0	40.4	14.7	3.2
Economy					
I can buy or rent materials, equipment, or other items for thesis writing	12.3	37.5	35.8	12.3	2.1
My financial condition allows me to pay the administrative fees for the thesis	13.3	36.8	33.7	11.9	4.2
Family					
My family motivates me to write my thesis	9.5	20.7	31.6	26.7	11.6
There are family responsibilities that make it difficult for me to write my thesis	6.3	18.6	31.2	27.4	16.5
Motivation					
There are causes that influence my motivation to write a thesis	3.9	6.3	39.6	34.7	15.4
I am motivated to write my thesis	4.2	19.6	38.9	30.9	6.3

The dimension of *academic* factors in the preparation of the thesis, the results reported that these students have a 38.9%, with a medium level; 31.2% with a low level; and 29.8% with a high level. With regard to the indicator of research courses, a predominance of responses from students is observed occasionally with regard to whether they apply the research courses in the preparation of the thesis (40.7%), and whether the advances of the thesis that they carry out in said courses are useful (occasionally with 42.8%). Additionally, they report that, although they have advanced their research work, they need advice, because there are aspects to improve, because the advances were not enough and the orientations were not to their liking, and although it has been useful, and some refer that the courses are a basis for said process.

Regarding the indicator *competencies*, students respond that occasionally their level of writing allows them to prepare the thesis (42.8%); and they frequently use the APA style (36.8%). Moreover, the informants refer that they use said style, and they refer that they write well, although they refer that there are aspects to improve, and that they have doubts about some writing processes. About the search in digital repositories (36.1%), and the use of Scopus, Ebsco, WOS, and/or Science Direct, a predominance of occasionally with 30.5% was observed. With regard to databases, students know some of them, providing names of them, such as Scopus, Scielo; as well as mentioning some repositories such as Alicia and Google Scholar, and repositories from other universities. They also mention that the information they find there is reliable.

The indicator *economy* shows that students rarely (37.5%) can buy or rent materials or other items for their thesis. They also occasionally (35.8%) mention that their economic condition would allow them to pay the administrative fees. These economic conditions influence the formulation of their research and the acquisition of books or other materials. It is important to note that these students work and have responsibilities at home. They also work as teachers in schools, and they may not earn high salaries. Additionally, they may not yet have their bachelor's degree or title, which can limit their employment opportunities and earnings.

The indicator *family* shows that students occasionally (31.6%) feel motivated by their family to complete their thesis. They report that their family is relatively supportive of their research. Additionally, they report that they do not have major family responsibilities that would make it difficult or impossible for them to complete their thesis. Results show that students have a medium level (38.9%) of academic factors, a low level (31.2%), and a high level (29.8%).

In terms of *research courses*, students occasionally (40.7%) report that they apply the skills they learned in these courses to their thesis. They also occasionally (42.8%) report that the advances they made in their thesis in these courses were useful. However, students also report that they need additional assistance, as there are aspects they need to improve. They also report that the guidance they received in these courses was not always to their liking.

In terms of *research skills*, students report that their writing skills are sometimes sufficient for thesis preparation (42.8%). They frequently use the APA style (36.8%). Students say that they use the APA style and that they write well. However, they also say that there are aspects they need to improve, and that they have questions about some writing processes. In terms of digital repositories, students report that they occasionally use Scopus, Ebsco, WOS, and/or Science Direct (30.5%). They also report that they are familiar with some databases, such as Scopus, Scielo, Alicia, and Google Scholar, and repositories from other universities. They also say that the information they find in these resources is reliable and rigorous, and that they use it when writing their theses.

Regarding reference managers in thesis writing, students report using them occasionally (30.9%), followed by rarely (25.3%). It was found that reference managers are not widely used, but students typically use Mendeley or Zotero to manage their references. They also report that they have been using them recently or this year, that their professors have taught them how to use them, or that they took a course on the subject.

With respect to participation in workshops, seminars, or other activities on how to prepare a thesis, students express a predominance of occasionally (40.7%). Similarly, in terms of academic events on the topic of their research, there is an occasionally of 35.8%. Additionally, they report that

students participate in events on thesis writing and the topic of their thesis work held at the faculty. This reveals motivation on the part of the students, and although it does not reach half of the study sample, it is not insignificant.

Students were asked whether they consider the advances in research they make in thesis courses; and they expressed that they do so occasionally (48.1%). Similarly, they report that although thesis courses have been useful for the actual writing of the thesis, they need advice to improve the writing aspects, some knowledge that has been basic, the final part of the work, and that they are guided by external information.

For using software for detecting plagiarism such as Turnitin, students report using it occasionally (34.4%). Additionally, they express that they have not widely used the Turnitin program because it is not accessible for free, but they have used some programs that are found on the web such as Plagiarium. On the use of software for data processing, such as Excel, SPSS, Atlas ti, or others, students report using them occasionally (40%). They also express that they mostly use Excel, followed by SPSS. More quantitative data on academic factors can be found in Table 3.

**Table 3:** Levels of perception of academic factors (in percentages)

Answers	1	2	3	4	5
<i>Research courses</i>					
I apply the research courses in the writing of the thesis	4.9	11.2	40.7	33.0	10.2
The thesis advances made during research courses are useful	2.1	11.2	42.8	33.0	10.9
<i>Research competences</i>					
My writing allows me to write my thesis	1.4	10.9	42.8	33.7	11.2
The search in digital repositories helps me to write my thesis	1.4	9.8	36.1	36.1	16.5
Use of Scopus, Scopus, Ebsco, WOS, and/or Science Direct in the thesis writing	15.4	18.9	30.5	23.2	11.9
I use a bibliographic manager such as Mendeley, EndNote or others to write my thesis	16.1	25.3	30.9	20.0	7.7
I use APA or another style to write the thesis	2.8	6.3	25.3	36.8	28.8
I participate in workshops, seminars, or others on how to write a thesis	10.2	28.8	40.7	16.5	3.9
I have participated in conferences, workshops or others about my thesis topic	20.4	27.0	35.8	13.3	3.5
I can consider the progress of my research from thesis courses	5.3	16.5	48.1	23.2	7.0
I relate the lines of research to the thesis work	4.9	14.7	44.2	28.8	7.4
I use software such as Turnitin or other related software to improve thesis writing	20.7	26.3	34.4	14.7	3.9
I use data processing software, such as Excel, SPSS, Atlas ti, or others to write the thesis	12.6	23.9	40.0	18.2	5.3

With regard to how the perception of *institutional factors* in their thesis writing is perceived, the results reported that they have a medium level with 39.3%, a low level with 31.6%, and a high level of 29.1%, visible in Table 5. Now, with regard to institutional factors, it is reported that, in the infrastructure indicator, corresponding to the use of laboratories and other research environments, as well as when referring to whether they are accessible for thesis writing, they express occasional use with 43.2%. Likewise, students consider that they are adequate and that they have the possibility of using their equipment and environments for research, requesting the respective permits.

In terms of their faculty in the *library* indicator, when referring to whether they have bibliographic material or others that they use for thesis writing, they report that occasionally (47.4%). When asked the same question, but about the central library, students responded that occasionally (46.3%). Likewise, these similar data express that there is not much difference between the two libraries. Students conferred that the bibliographic material of the central library is more up to date than the library of their faculty.

When asked about the training courses that the library of their faculty offers on databases, citation styles, and other topics related to thesis writing, students report that they attend occasionally (44.2%). Similarly, when the same question was asked about the central library, students again said “occasionally” (46.3%). These data show a slight difference between the two libraries, and that students have an average attendance at these events.

In terms of the *normative* indicator, some students specified that they are easily accessible,

(47.4%). Likewise, these norms are understandable (52.3%). In addition, they refer to knowing about the documents and payments that make up these regulations; although they refer that there is no specific staff who orients them on their content (some assume that it is the student resource center), and that they get oriented by themselves and with other graduates.

Research lines are contained in a formal university document, and students report using them occasionally (51.2%). Likewise, several of them express that they do not know if the research lines are in a formal document, and others confer that they are in a document provided by the department [School of Professional Education], that the professors make them conscious of it in the course, and that they are in the document of the Sustainable Development Goals.

In addition, students report that the activities of research groups occasionally help in the preparation of the thesis (42.8%). Something similar happens with the activities of research networks and their help in the preparation of the thesis, where a majority of occasionally (46%) is observed. Additionally, they report that these activities influence their research work because they meet people with more experience on their topic, allowing them to consolidate their knowledge in this way, because it is related to research, among other aspects.

Orientation on administrative procedures related to the thesis is occasionally given (54%). The same students refer that they still do not know about the administrative procedures related to said academic work, given casually because they have not had experience in it, and that they also do not know about which office or people can guide them, and that, in those cases, they help each other, and with colleagues who have graduated.

Regarding the relationship of research courses with thesis writing, students responded that they are occasionally relevant (46.3%). In the same sense, they report that research teachers are qualified (42.8%). Likewise, some refer that there are several teachers who teach research courses, which makes it difficult to ask questions if there are several students per classroom (about 40), and that the professors having several methods has caused some confusion. Although there are some who responded that the teachers are not the most qualified (due to the different methods). Some responded that teachers have helped them a lot, and that they are qualified.

When asked if the university provides any financial assistance for thesis writing, they report occasionally (30.2%). Likewise, when asked about whether administrative payments during the thesis are accessible, they responded occasionally (41.1%). They report that the thesis is somewhat difficult to obtain a university degree, and that the university does not provide any financial assistance during thesis preparation.

On the other hand, on whether the amount of advising for the preparation of the thesis is adequate, students mostly reported occasionally (43.5%). Similarly, whether they know if the characteristics of the advising are described in a regulation, students reported occasionally (48.8%). Some affirm that the amount of advising has been very good and enriching for their research work. More quantitative data on institutional factors can be found in Table 5.

**Table 4:** Levels of perception of institutional factors (in percentages)

Answers	1	2	3	4	5
Infrastructure					
Laboratories or other research environments are accessible when required for the development of the thesis	8.8	30.9	43.2	14.0	3.2
Laboratories or other spaces are equipped and upgraded	7.7	31.6	44.9	12.6	3.2
Library					
Your school department library provides training on databases, citation styles, among others, oriented to the thesis writing process	7.7	32.6	44.2	13.3	2.1
The library of your school department owns bibliographic and other materials, which you use for the thesis writing process	6.0	24.6	47.4	19.6	2.5
The general library provides training on databases, and citation styles, among others, oriented to the thesis writing process	7.0	28.1	43.2	17.9	3.9
The general library has bibliographic and other material, which you use for the thesis writing process	4.6	23.5	46.3	21.1	4.6



Answers	1	2	3	4	5
Regulations					
Thesis writing guidelines are easily accessible	4.6	22.8	47.4	21.4	3.9
Thesis writing standards are understandable	4.9	18.2	52.3	20.7	3.9
The lines of research are associated with the thesis writing regulations	4.9	13.3	53.3	23.5	4.9
Lines of research are contained in a document	3.2	15.1	51.2	24.6	6.0
Activities of research groups help me with my thesis	7.4	20.4	42.8	25.6	3.9
Research network activities help you with your thesis	7.0	20.4	46.0	22.1	4.6
Activities of the research groups in the thesis are useful	5.6	18.2	44.6	26.0	5.6
Administrative orientation on administrative procedures related to the thesis is appropriate	6.0	20.0	54.0	16.8	3.2
Research courses					
Research courses are appropriately developed	4.9	17.9	46.3	26.3	4.6
Professors who teach research are qualified	2.5	15.8	42.8	32.3	6.7
Economy					
The university provides some financial assistance for the thesis writing process	29.5	27.7	30.2	10.5	2.1
Administrative fees associated with the thesis are affordable for your budget	14.7	27.7	41.1	14.0	2.5
Advisory services					
The number of thesis advisories is adequate	10.5	26.0	43.5	16.1	3.9
The characteristics of a thesis consultancy are described in a regulation	7.0	23.2	48.8	17.9	3.2

#### 4. Discussion

Undergraduate thesis writing in education is on an intermediate level (40.4%), and this is related to that mentioned by Aquino (2019), that factors that affect thesis writing in nursing is 85.2%. Factors mentioned in the literature are personal, academic and institutional factors (Rietveldt & Vera, 2012; Soto, 2020). Meanwhile, Alosilla (2009) and Aquino (2020) do not consider academic factors in the same way we have conceptualized it here, but those authors fuse it with personal factors.

In relation to how personal factors are characterized, our results show that they exist on an intermediate level (44.2%). Similarly, regarding *time*, students manifested that they could alternate their work-related life with their thesis, and this is in line with what Soto (2020) concluded in a study conducted with postgraduate students. In that study, the activities of thesis writing did not influence work-related life. With the same logic, El-Freihat (2021) mentions that thesis students in a Jordanian university, were moderately occupied, being able to overcome the difficulties of having different activities, in order to optimize their time for finish their research work.

In an opposite way, Pangket et al. (2023) with master's students in the Philippines, showed that students with multiple workloads found their research capacities affected. Merino (2019) concluded that the element of time is that which most affected compliance with programmed advances. Students do confer that they do manage their time well, dedicating their nights and weekends to their theses. We theorize that during thesis elaboration, there are not many differences between undergraduate and postgraduate levels, given that both groups are generally already inserted into the labor market.

In terms of the economic aspect, students reported that it is a rare factor (37.5%), and that they choose research topics that are within their financial means. This represents a limitation for the research. This coincides with the findings of Soto (2020), who found that students who received financial aid or scholarships were more likely to complete their theses. Soto also found that students who did not complete their theses often had problems with the research methodology, especially in the research proposal stage, and that economic and family factors were also contributing factors.

In addition, students express motivation for completing their thesis on an occasional basis (39.6%). Rietveldt & Vera (2012) mention that students have an interest in research, time commitment, and personal initiative (p. 112), which is linked to interpersonal relationships. These aspects can influence the thesis work. In addition, Aquino (2019), as a result of a study on nursing interns at the same UNMSM, mentions that 79.6% of students affirm that there are favorable factors, at both personal and institutional levels, associated with the thesis.

As for how academic factors are associated with thesis preparation, students are at a medium

level (38.9%). When asked about the applicability of research courses to the thesis and the usefulness of the advances, they mention that they are frequently used and are necessary. While we analyze each factor that is associated with thesis preparation separately, there is an interrelationship between them. Capa-Luque et al. (2022), in a study of psychology students, offer that academic and cognitive-affective factors are predictors of graduating, and that commitment and attitude towards statistics could regulate the intention to write the thesis. These aspects of tool handling are associated not only with knowledge of the tool, but also with the attitude they have towards handling it.

The need to develop and enhance research skills is necessary to train the student in the area of knowledge, so that the research has greater rigor and reliability. In this sense, little updated or non-rigorous literature was found in postgraduate theses (Perdomo & Morales, 2018, pp. 11-12), and the same could happen in an undergraduate thesis (as in our research).

While the students in our sample have occasional use of Mendeley and Zotero reference managers for citation and references, their knowledge could be expanded to search for information online, share sources, and promote the use of collaborative work. These tools should be enhanced by the library, which is responsible for the training and guidance of users and researchers (Arévalo & Quinde-Cordero, 2021). Concerning APA style, students report good handling in academic texts, which facilitates the writing of the thesis. These aspects are necessary to reinforce academic writing in and the elaboration of scientific texts (Perdomo & Morales, 2018).

Finally, students responded about their understanding of how institutional factors relate to the thesis, is at a medium level (39.3%). Regarding infrastructure and environments that favor research, university students report occasional use (44.9%) and that they are accessible. The importance of using infrastructure is related to the findings of El-Freihat (2021) in a study of universities in Jordan, who mentions that there should be a greater focus on infrastructure, especially because these institutions lack the resources for students to complete their master's theses, and because the budget is generally allocated to salaries, not to academic research. They also mention difficulties accessing international databases, as their registration requires funding.

With respect to the library in their faculty and the Central Library (the largest and most interdisciplinary library in the university), students report that they are up-to-date and accessible, and that training is offered on databases, writing, citation styles, bibliographic managers, among others. However, they note that this information is not always disseminated. Décima et al. (2018) and Tovar-Sanz (2015) also discuss the importance that universities place on university libraries in terms of the services they provide for the training of new researchers and for learning.

In terms of research advising, Merino (2019) emphasizes the importance of the advisor for the development of the research proposal or project. The advisor is expected to be an expert in the field and to provide support. This coincides with the findings of Coromoto (2009), who states that the tutor or advisor "should be present throughout the entire process of completing the degree work" (p. 92). Lobo (2023) found in a study in the Philippines that it is important to know the reports of the advisors (supervisors) to determine the challenges that students face when writing their theses. Coromoto (2009) also explains that the qualities of an advisor should include expertise in the field, familiarity with the student, flexible hours, and other factors.

## 5. Conclusions

From a mixed approach, our research achieved its objective of explaining the perception of factors associated to thesis writing. These factors are characterized in the sample of students, through the classification of personal, academic, and institutional factors. Our quantitative results were corroborated and broadened with the aid of the qualitative data, reaching a better understanding of our research topic.

In personal factors, we found that the students were motivated to write their theses, being able to alternate between their studies, work and families, albeit with some difficulty. We believe that these factors can be improved with a calendar of deliverables, better feedback from teachers through

virtual channels or platforms. In this way students would be able to know which aspects of their theses to improve, as well as knowing how to manage their time better.

Regarding academic factors, the students mentioned what they have learned in their research courses was useful, that they have a good level of research competencies expressed in good writing skills, citation style and bibliographic managers, among others. However, although they possess an intermediate level of these competencies, they could be improved through diagnostics directed at understanding precisely what their knowledge is regarding these competencies. More training courses in these areas could also be beneficial.

In the institutional factors, we found that although there exist standards and norms regarding research lines and protocols, they are usually explained by teachers, but are given little institutional importance on a faculty or university level. This causes some demotivation in students because they do not find the required information in a rapid and updated manner. For this reason, we conclude that disseminating this information through the faculty's webpage, research lines and standards would have more impact on students.

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