# Psychological Profile of Five Generations of Aspirants to the Nursing Master's Degree Program of the National Autonomous University of Mexico

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*Authors' contributions*

*This work was carried out in collaboration among all authors. Author GGJ advised the design of the protocol. Authors GGJ, DCTP and GPG drafted the manuscript, collected, and analyzed the data. All authors read and approved the final manuscript.*

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## ABSTRACT

**Background:** The nursing master's degree program of the National Autonomous University of Mexico conducted this self-assessment as part of a larger evaluation research project. The results based on the Psychological Evaluation Manual (PEM), which is used since 2010 and which estimates the general characteristics of the psychological profile of the aspirant students, are shown.
**Objective:** The objective of this study was to analyze the levels of performance of the aspirants to the nursing master's degree program and simultaneously, identify the related academic trajectory variables, based on the Psychological Assessment Manual, and in line with the nursing master's degree formative self-evaluation frame.

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**Methods:** The study was descriptive and transversal. The sample was constituted by 169 aspirants to the nursing master's degree program from 2015 to 2020 generations.
**Results:** Some dimensions of the Psychological Evaluation Manual are significant to predict a successful academic trajectory. From the linear regression, it was observed that the variables Abstract reasoning and Avoidance of challenging work explain 18.9% of the variance in the average of the master's, with Abstract reasoning having a higher positive impact beta = .011) while in Avoidance of challenging work it was -.014. According to the, the expected profile of the aspirants to the nursing master's degree program implies medium-high scores on the scales of Academic aptitude, Adjustment to the reference social norms, as well as with Facilitating aspect, while medium-low scores in the scales of Deviation from the reference social norms and Limiting aspects.
**Conclusions:** The study is that the Psychological Assessment Manual inputs valuable information which contributes to better estimate the profile of the aspirants to the program.

*Keywords: Nursing postgraduate program; psychological assessment manual; education assessment.*

## 1. INTRODUCTION

From the early 90s, academic accrediting bodies in Mexico have highlighted that the enrolment process of aspirants must be rigorous to be more selective to the best profiles of the aspirants in the academic programs. Self-evaluation of academic programs accomplishes the objective of carrying out internal and external quality diagnoses [1-3]

The self-evaluation of graduate programs at the National Autonomous University of Mexico takes place every five years in fulfillment of the related norm in the Graduate Studies General Regulation (2018). As part of this exercise, the diverse processes and actors of the programs are analyzed and reviewed. The self-assessment of the nursing master's degree program began in 2019 to have an output ready for its 2020 exercise [4-5].

Although different selection processes have been used to filter graduates, this to meet various expectations, including the availability of scholarships, for example, in this document, the Psychological Evaluation Manual (PEM), as a mechanism which has been used for more than 15 years to define the psychological profiles with the greatest influence on academic trajectories careers [6].

The MEPsi (in Spanish) or PEM in English (2020) has been an academic supporting tool in most graduate programs of the National Autonomous University of Mexico. This Manual is constituted by a set of scholastic aptitudes and psychological and social characteristics tests. The produced information can contribute to the selection of ideal candidates for the nursing degree master's program. Moreover, the cumulative related data can also support the trajectory of students, and the refinement of the curriculum [6].

The backgrounds in the implementation of this Model's tests in the graduate programs of the National Autonomous University of Mexico are identified in the programs of Management Sciences, Biochemical Sciences, and Biomedical Sciences in 1999. In 2000 the Model began to be used in other graduate programs including Engineering, Biology, Odontology, and Health Sciences. The PEM is constituted by five tests of academic aptitudes or intellectual skills and three questionnaires related to motivation and potentials regarding the academic performance [6].

The dimension of academic aptitudes deals with abstract reasoning, verbal reasoning, use of language, and reading comprehension, among others. The dimension of psychological and social aspects deals with adjustment to the social referential norms, deviation from the social referential norms, facilitators, and barriers to performance, among others.

The PEM has been analyzed and has shown being a consistent and reliable tool in the selection of candidates for the graduate programs in the university. From 2006 to 2018, 67,039 PEM-related tests have been applied in diverse graduate programs of the National Autonomous University of Mexico, with an annual average of 5,272 applied instruments for 13 years, and a total of 6,175 specifically in 2012 [6] (Fig. 1).

The characteristics of the application of this set of tests include:

- 01: It can be given to individuals or to groups in sessions which last an average of three hours.
- 02: The grading and the report generation are automatized which guarantees confidentiality.
- 03: The assessment is differentiated allowing comparisons with references.
- 04: The results are obtained and given to the graduate staff in a short time.
- 05: The results handling is only carried out by the Chief of Instruments

Some ethical considerations in the use of this instrument are respect, confidentiality, and avoiding the labeling of persons from their results [6]. The structure of the dimensions of the PEM is as follows:

Dimension I: Academic Aptitude, which includes the following factors:

a) 01: Abstract reasoning. Ability to extract implicit information and establish relationships in figures (analysis and synthesis of information).
b) 02: Verbal reasoning. Identification and production of analogies between facts, concepts or ideas expressed in words.
c) 03: Use of language. Use of rules of Spanish in written expressions from the adequate use of grammar and syntax.
d) 04: Reading comprehension. Ability to identify the main ideas of a text and sustain or reject the conclusions of the author.

Dimension II: Adjustment to the reference social norms, which includes the following factors:

e) 05: Social control. Degree in which the subject fits into the reference norms of the group in terms of expected behavior.
f) 06: Social desirability. Assesses the conducts which the subject shows to feel accepted into the reference group.
g) 07: Lies. Evaluates the degree of manipulation of the information to exhibit a socially accepted image.
h) 08: Stability. Measures the tendencies which the subject regarding the compliance of the norms.

Dimension III; Deviation from the reference social norms, which includes the following factors:

a) 09: Deviation. Assesses the possibility of antisocial conducts, which is observed among subjects who do not care about the consequences of their acts.
b) 10: Impulsivity: Evaluates the tendency of the individual to act by impulses without reasoning or reflecting.
c) 11: Negativism: Evaluates the inclination of the subject to minimize the value of the study as an element to progress and personal achievement, assuming that it is useless to make an effort to improve because the relations of power are determined by power associated factors.
d) 12: Social manipulation: Measures the tendency to act by convenience and make an influence on the others regardless of the means to achieve personal objectives.

Dimension IV: Facilitating aspects, which includes the following factors:

a) 13: Orientation towards achievement. It is the tendency to establish high goals and to try to achieve them.
b) 14: Self-efficacy. The perception of their own capacity to face and solve problems and achieve important results.
c) 15: Mastership. Motivation towards a good academic performance while trying to master the acquired knowledge.
d) 16: Leadership. Disposition to assume the coordination and direction of group work, while taking into consideration the interests of all.
e) 17: Self-esteem. Self-security and tendency to maintain good relationships with others.

Dimension V: Limiting aspects, which include the following factors:

f) 18: Fear of failure. Inconformity with the obtained results and tendency to react negatively regarding own mistakes.
g) 19: Avoidance of challenging work. Tendency to avoid difficult tasks.
h) 20: Morosity. Tendency to delay or postpone the realization of tasks and personal duties.
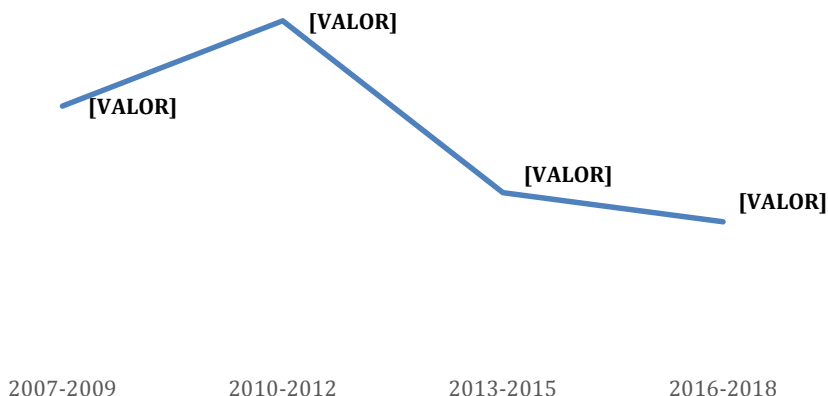i) 21: Social nonconformity. Degree of anger or incommodity towards social relations and activities of the group.

**Fig. 1. History of PEM Applications from 2007-2009 to 2016-2018**
*Source: PEM, National Autonomous University of Mexico (2020)*

## 2. METHODS

### 2.1 Study Design

A quantitative, descriptive, and transversal study with a sample constituted by candidates of six generations of the nursing master's degree program of the National Autonomous University of Mexico [7].

### 2.2 Participants

The participants were 169 candidates to the nursing master's degree program of the National Autonomous University of Mexico, belonging to five different generations from cohorts: 2015-2017, 2016-2018, 2017-2019, 2018-2020, 2020-2021. The curriculum lasts two years and admission to the program is annual.

### 2.3 Inclusion Criteria

Candidates to the nursing master's degree program of the National Autonomous University

of Mexico, belonging to five different generations from cohorts (2015 to 2020).

### 2.4 Recollection of the Information

The instrument used was the Psychological Evaluation Manual (PEM) it is a valid and reliable document used in the institution's graduates and is designed, applied, and analyzed by the General Directorate of Educational Services Operations (DGOSE) of the National Autonomous University of Mexico.

The test is made by five parts which assess academic aptitudes (abstract reasoning, verbal reasoning, use of language, and reading comprehension), three questionnaires on psychosocial aspects which include four scales: Adjustment to the reference norms, Deviation from the reference norms, facilitating aspects, and Limiting aspects. PEM has the following times(Table 1):

**Table 1. Times and number of items**

| Part | Section | Test | Time | Items |
|---|---|---|---|---|
| I | A | Progressive matrices | 5´ | 12 |
| | B | Progressive matrices | 45´ | 36 |
| II | A | Verbal reasoning | 7´ | 17 |
| | B | Use of language | 14´ | 24 |
| | C | Reading comprehension | 21´ | 15 |
| Rest 15´ | | | | |
| III | A | Attitude | Free time | 113 |
| | B | | | 82 |
| | C | | | 45 |

*Source: PEM, National Autonomous University of Mexico (2020)*

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## 2.5 Procedure

The procedure implied knowing the individual profiles of each applicant as part of the admission program to the nursing master's degree. The aspirants belonging to the generations 2015-2019 were evaluated in an in-situ manner and in group in a session of around three hours conducted by specialized personnel from the General Direction of Orientation and Education Attention of the National Autonomous University of Mexico, while the participants from the 2020 generation were remotely assessed through their personal electronic devices. The results of the PEM are delimited in three levels: low range, with 1 to 34 score points; medium range, with 35 to 65 score points, and high range, with 66 to 100 score points. The tests contain the general score of the group in one of the columns, so that a reference to the whole can be available.

PEM has the following times:

## 2.6 Data Analysis

Descriptive statistics were calculated to analyze the data of each generation and the six generations. Student´s t test for independent samples were calculated. One-way ANOVA between generations, Pearson r correlation, and linear regression were also calculated. The IBM SPSS Statistics V 25 was used. The previous performance of normality tests allowed the selection of ANOVA ONE WAY. For the investigators and methodologist, that it was the reason for its selection and considering the total constitution of the group of 169 participants.

## 3. RESULTS

The sample was constituted by 169 participants belonging to the generations of the years 2015 (n=19), 2016 (n=14), 2017 (n=28), 2018 (n=14), 2019 (n=17), and 2020 (n=44). 75.7% were female. 74.6% were between 23 and 34 years old, while 19% were between 35 and 52 years old.

The dimension of Academic aptitude showed low scores in all generations. Regarding this, in abstract reasoning the generations 2015 and 2019 had 63.2% and 64.7% respectively. It is worth highlighting that there is an important percentage of missing data of each generation regarding verbal reasoning and use of language.

In relation to reading comprehension, the 2015 generation showed an important percentage of cases with low performance (63.2%) (Table 2).

Regarding the dimension of Adjustment to the reference social norms, medium performance is seen in all components of the scale, however, the 2015 and 2018 generations are the one which demonstrated better performance in the factors of Social control (31.6% and 31.9%, respectively). Social desirability (36.8 and 38.3%), Lies (26.3% and 38.3%, respectively), and regarding Stability and comply of norms the numbers were 36.8% and 42.6% respectively. (Table 3).

In relation to the performance on the dimension Deviation from the reference social norms, the tendency in all generations was towards medium and high score points, where generation 2017 specifically had 96.4% and 92.9% in the factors of Lack of adjustment and social manipulation respectively (Table 4).

On the dimension Facilitating aspects, a tendency towards the medium score points is observed. The factors Orientation towards achievement, Self-efficacy, and Dominion, in the generations 2015,2016, 2017, and 2020 had 100% of the cases (Table 5).

Regarding the dimension Limiting aspects, the tendency was towards the medium low scores, like in the cases of the 2015 and 2017 generations, which do not show high scores in Avoidance of challenging tasks, Morosity and social disagreement, with the 2017 generation showing a greater percentage of cases towards low score (60.7%) (Table 6).

From the ANOVA, significant differences were found in the generations regarding Reading comprehension (F=4.56), mainly in the 2015,2016,and 2018 generations, being the first with the lowest performance (23.74) and the last with medium level (41.43); Social control (F=2.86) in the data of 2018 (58.66) and 2019 (43.29); Social desirability (F=2.69) of years 2015 (56.63) and 2019 (41.12); Lies (F=2.79) in the generations 2018 (60.38) and 2019 (45.88); Stability and compliance to the reference norms (F=3.13) of the results of the years 2016 (50.07) and 2018 (61.96), and Morosity (F=3.20) between the generations 2016 (51.57), 2017 (42.36) and 2018 (42.21).

**Table 2. Comparative by generation in the academic aptitude scale**

| Academic aptitude | Perform | 2015 (%) | 2016 (%) | 2017 (%) | 2018 (%) | 2019 (%) | 2020 (%) |
|---|---|---|---|---|---|---|---|
| Abstract reasoning | Low | 63.2 | 35.7 | 42.9 | 46.8 | 64.7 | 50.0 |
| | Medium | 15.8 | 57.1 | 53.6 | 51.1 | 23.5 | 43.2 |
| | High | 0 | 0 | 0 | 0 | 11.8 | 2.3 |
| | Missing | 21.1 | 7.1 | 3.6 | 2.1 | 0 | 0 |
| Verbal reasoning | Low | 21.1 | 50.0 | 53.6 | 51.1 | 58.8 | 50.0 |
| | Medium | 10.5 | 7.1 | 14.3 | 19.1 | 11.8 | 11.4 |
| | High | 0 | 0 | 0 | 0 | 0 | 0 |
| | Missing | 68.4 | 42.9 | 32.1 | 29.8 | 29.4 | 38.6 |
| Use of language | Low | 26.3 | 28.6 | 35.7 | 46.8 | 41.2 | 45.5 |
| | Medium | 15.8 | 21.4 | 17.9 | 27.7 | 17.6 | 22.7 |
| | High | 0 | 0 | 0 | 0 | 5.9 | 2.3 |
| | Missing | 57.9 | 50.0 | 46.4 | 25.5 | 35.3 | 29.5 |
| Reading comprehension | Low | 63.2 | 35.7 | 35.7 | 21.3 | 47.1 | 38.6 |
| | Medium | 36.8 | 64.3 | 64.3 | 74.5 | 47.1 | 56.8 |
| | High | 0 | 0 | 0 | 4.3 | 5.9 | 2.3 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 2.3 |

*Source: PEM, National Autonomous University of Mexico (2020)*

**Table 3.  Comparative by generation in the Adjustment to reference social norms**

| Adjustment to reference social norms | Perform level | 2015 (%) | 2016 (%) | 2017 (%) | 2018 (%) | 2019 (%) | 2020 (%) |
|---|---|---|---|---|---|---|---|
| Social control | Low | 5.3 | 14.3 | 71.4 | 6.4 | 23.5 | 11.4 |
| | Medium | 63.2 | 71.4 | 0 | 61.7 | 64.7 | 63.6 |
| | High | 31.6 | 14.3 | 28.6 | 31.9 | 11.8 | 25 |
| Social desirability | Low | 5.3 | 28.6 | 10.7 | 8.5 | 35.5 | 13.6 |
| | Medium | 57.9 | 42.9 | 64.3 | 53.2 | 52.9 | 61.4 |
| | High | 36.8 | 28.6 | 25 | 38.3 | 11.8 | 25.0 |
| Lies | Low | 10.5 | 21.4 | 7.1 | 10.6 | 29.4 | 6.8 |
| | Medium | 63.2 | 64.3 | 64.3 | 51.1 | 52.9 | 63.3 |
| | High | 26.3 | 14.3 | 28.6 | 38.3 | 17.6 | 29.5 |
| Stability and compliance of norms | Low | 5.3 | 7.1 | 7.1 | 0 | 5.9 | 4.5 |
| | Medium | 57.9 | 85.7 | 64.3 | 57.4 | 76.5 | 65.9 |
| | High | 36.8 | 7.1 | 28.6 | 42.6 | 17.6 | 29.5 |

*Source: PEM, National Autonomous University of Mexico (2020)*

**Table 4. Comparative by generation in the deviation from reference social norms scale**

| Deviation from reference social norms | Perform | 2015 (%) | 2016 (%) | 2017 (%) | 2018 (%) | 2019 (%) | 2020 (%) |
|---|---|---|---|---|---|---|---|
| Disadjust | Low | 5.3 | 0 | 0 | 2.1 | 5.9 | 4.5 |
| | Medium | 73.7 | 85.7 | 96.4 | 89.4 | 76.5 | 88.6 |
| | High | 21.1 | 14.3 | 3.6 | 8.5 | 17.6 | 6.8 |
| Impulsivity | Low | 0 | 0 | 0 | 0 | 0 | 0 |
| | Medium | 73.7 | 64.3 | 85.7 | 80.9 | 70.6 | 84.1 |
| | High | 26.3 | 35.7 | 14.3 | 19.1 | 29.4 | 15.9 |
| Negativism | Low | 5.3 | 7.1 | 21.4 | 21.3 | 23.5 | 27.3 |
| | Medium | 63.2 | 92.2 | 75.0 | 76.6 | 64.7 | 68.2 |
| | High | 10.5 | 0 | 3.6 | 2.1 | 0 | 4.5 |
| Social manipulation | Low | 10.5 | 0 | 7.1 | 17.0 | 11.8 | 11.4 |
| | Medium | 84.2 | 92.9 | 92.9 | 80.9 | 76.5 | 84.1 |
| | High | 5.3 | 7.1 | 0 | 2.1 | 0 | 4.5 |
| | Missing | 0 | 0 | 0 | 0 | 11.8 | 0 |

*Source: PEM, National Autonomous University of Mexico (2020)*

**Table 5. Comparative by generation in the Facilitating aspects scale**

| *Facilitating aspects* | Perform | 2015 (%) | 2016 (%) | 2017 (%) | 2018 (%) | 2019 (%) | 2020 (%) |
|---|---|---|---|---|---|---|---|
| *Orientation towards* | *Low* | *0* | *0* | *0* | *0* | *0* | *0* |
| *achievement* | *Medium* | *100* | *100* | *100* | *2.1* | *88.2* | *100* |
| | *High* | *0* | *0* | *0* | *97.9* | *0* | *0* |
| | *Missing* | *0* | *0* | *0* | *0* | *11.8* | *0* |
| *Self-efficacy* | *Loe* | *0* | *14.3* | *7.1* | *6.4* | *5.9* | *2.3* |
| | *Medium* | *100* | *85.7* | *92.9* | *93.6* | *82.4* | *97.7* |
| | *High* | *0* | *0* | *0* | *0* | *0* | *0* |
| | *Missing* | *0* | *0* | *0* | *0* | *11.8* | *0* |
| *Mastery* | *Low* | *0* | *0* | *0* | *2.1* | *0* | *0* |
| | *Medium* | *100* | *100* | *100* | *97.9* | *88.2* | *100* |
| | *High* | *0* | *0* | *0* | *0* | *11.8* | *0* |
| | *Missing* | *0* | *0* | *0* | *0* | *0* | *0* |
| *Leadership* | *Low* | *0* | *7.1* | *0* | *0* | *5.9* | *4.5* |
| | *Medium* | *89.5* | *78.6* | *82.1* | *78.7* | *76.5* | *70.5* |
| | *High* | *10.5* | *14.3* | *17.9* | *21.3* | *5.9* | *25.0* |
| | *Missing* | *0* | *0* | *0* | *0* | *11.8* | *0* |

| *Facilitating aspects* | *Perform* | *2015 (%)* | *2016 (%)* | *2017 (%)* | *2018 (%)* | *2019 (%)* | *2020 (%)* |
|---|---|---|---|---|---|---|---|
| *Self-esteem* | *Low* | *0* | *7.1* | *7.1* | *2.1* | *5.9* | *2.3* |
| | *Medium* | *84.2* | *78.6* | *75.0* | *85.1* | *76.5* | *84.1* |
| | *High* | *15.8* | *14.2* | *17.9* | *12.8* | *5.9* | *13.5* |
| | *Missing* | *0* | *0* | *0* | *0* | *11.8* | *0* |

*Source: PEM, National Autonomous University of Mexico (2020)*

**Table 6. Comparative by generation in the Limiting aspects scale**

| Limiting aspects | Perform level | 2015 (%) | 2016 (%) | 2017 (%) | 2018 (%) | 2019 (%) | 2020 (%) |
|---|---|---|---|---|---|---|---|
| Fear of failure | Low | 15.8 | 14.3 | 28.6 | 0 | 17.6 | 22.7 |
| | Medium | 78.9 | 78.6 | 67.9 | 27.7 | 64.7 | 70.5 |
| | High | 5.3 | 7.1 | 3.6 | 72.3 | 5.9 | 6.8 |
| | Missing | 0 | 0 | 0 | 0 | 11.8 | 0 |
| Avoidance of challenging tasks | Low | 10.5 | 14.3 | 14.3 | 14.9 | 5.9 | 18.2 |
| | Medium | 84.2 | 78.6 | 85.7 | 80.9 | 64.7 | 77.3 |
| | High | 5.3 | 7.1 | 0 | 4.3 | 17.6 | 4.5 |
| | Missing | 0 | 0 | 0 | 0 | 11.8 | 0 |
| Morosity | Low | 10.5 | 0 | 10.7 | 14.9 | 17.6 | 6.8 |
| | Medium | 89.5 | 85.7 | 89.3 | 85.1 | 70.6 | 88.6 |
| | High | 0 | 14.3 | 0 | 0 | 11.8 | 2.3 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 2.3 |
| Social discomfort | Low | 36.8 | 28.6 | 60.7 | 34.0 | 17.6 | 43.2 |
| | Medium | 63.2 | 64.3 | 35.7 | 63.8 | 76.5 | 45.5 |
| | High | 0 | 7.1 | 3.6 | 2.1 | 5.9 | 11.4 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 |
| Personal insecurity | Low | 21.1 | 14.3 | 38.6 | 29.8 | 5.9 | 22.7 |
| | Medium | 73.3 | 71.4 | 67.9 | 61.7 | 76.5 | 68.2 |
| | High | 5.3 | 14.3 | 3.6 | 8.5 | 17.6 | 9.1 |
| | Missing | 0 | 0 | 0 | 0 | 0 | 0 |

*Source: PEM, National Autonomous University of Mexico (2020)*

Regarding the difference by sex, men tend towards Social manipulation (media = 49.55) and Social uncomfort (media = 45.56). In relation to age, there were negative correlations with the factors Abstract reasoning (r = -.330), Reading comprehension (r = -.228), and negativism (r = -.235). With the average, a positive correlation is obtained regarding Abstract reasoning (r = .352) and a negative with Avoidance of challenging tasks (r = -.302). Also, negative correlations are observed with the averages of the first semester with the factors of Disadjustment (r = -.396) and Social uncomfort (r = .450). It is worth highlighting that these data were only from the 2015,2018, and 2019 generations.

From the linear regression, it was observed that the variables Abstract reasoning and Avoidance of challenging work explain 18.9% of the variance in the average of the master's, with Abstract reasoning having a higher positive impact beta = .011) while in Avoidance of challenging work it was -.014. According to the PEM, the expected profile of the aspirants to the nursing master's degree program of the National Autonomous University of Mexico implies medium-high scores on the scales of Academic aptitude, Adjustment to the reference social norms, as well as with Facilitating aspect, while medium-low scores in the scales of Deviation from the reference social norms, and Limiting aspects.

## 4. DISCUSSION

The formative self-evaluation contributed to reflect on aspects of the graduate program which can be improved such as efficacy in the test as a mechanism of admission to strengthen the academic trajectories [1,8].

The PEM, as a psychometric instrument, has advantages and limitations, because it assesses the person in a determined moment and under certain circumstances which can vary. Nevertheless, it is a resource which contributes to the process of decision making [6].

The aspirants have the skills, but these can be improved. The academic effort in nursing is related with students who are aware of the demands [9]. The Master's in Nursing Program training professionals with abilities, attitudes, and knowledge for successful job insertion in labor field, updated and committed with country's needs [ 5,10-12].

The academic skills which aspirants have more difficulties with are: 1) Identification of analogies, concepts, and ideas; 2) enough skills for text analysis to extract main ideas; and 3) adequate use of grammar and syntax. These factors should be considered in qualitative approximations of the school trajectories of the aspirants to the graduate program in the further analysis [6,13-14].

## 5. CONCLUSION

The objective of this study was to analyze the levels of performance of the aspirants and identify the variables related with the successful academic trajectory in the graduate program. These results lead to an analysis of the context from which the students come to try to have a positive influence. We must consider for future applications that the aspirants to the master's degree program must comply with the requisite of being nurses in previous studies (undergraduate title).

A possible inference is in the previous generations. Moreover, the condition to return to studies implies to assess the context of the aspirants, who in their majority are active professionals in a hospital environment.

Finally, further studies must be conducted to research on the relationship between the adjustment to the social norms and interpersonal relations with the ethics.

A limitation of the study was that, the intermediate averages of all participants could not be obtained, and it is not possible to generalize the results] (including the linear regression prediction), so it is recommended a more precise follow up on the trajectories of the students and obtain a clearer operational definition with a successful trajectory. We believe it is necessary that the PEM be updated and adapted in relation to the different profiles which the graduate programs have, particularly regarding nursing.

## CONSENT AND ETHICAL APPROVAL

Within the ethical considerations, the informed consent was included, and the data were utilized only with statistical purposes, always maintaining the confidentiality of the participants. The responsibility for the protection of research subjects must always rest with the physician or

other health care professionals and never with the research subjects, even though they have given consent" Each participant signed an informed consent letter according to Nüremberg code and local law [15]

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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