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# Basic psychological needs and GRIT in Peruvian university students

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**Introduction:** The present quantitative study of predictive design aims to determine the influence of basic psychological needs and some socio-demographic variables on GRIT, in a sample constituted by scholarship students financed by PRONABEC from a private university in Lima.

**Methods:** The GRIT Scale and Basic Psychological Need Satisfaction and Frustration Scale were applied to 865 students, 54.7% were female, the ages fluctuated between 16 and 47 years of age, 74.5% were residents in Lima.

**Results:** The results demonstrated that Basic Psychological Need's satisfaction has a positive influence on GRIT. On the other hand, there is a negative relationship between the GRIT dimensions (consistency and perseverance) and BPN frustration. In addition, women and first generation students showed higher GRIT levels.

**Discussion:** This research confirms a high degree of influence of the competence needs satisfaction dimension on the GRIT and the influence of sociodemographic variables in achieving objectives.

## KEYWORDS

basic psychological needs (BPN), Peruvian university, high degree, predictive model, GRIT personality

## Introduction

In Peru, only 11% of the population living in poverty has access to higher education, which affects the ability to improve the quality of life and the probability of overcoming the current socioeconomic situation (PRONABEC, 2018). This makes education a fundamental axis to bridge the gap of economic inequality, as for someone completing their studies the probability of being poor is only 3% (PRONABEC, 2014).

Under this scenario, access to a scholarship program is essential, so PRONABEC scholarships favor access to quality education for young people who have a good academic performance but cannot afford it (Pérez-Campos and Espinoza-Lecca, 2015), thus contributing to social inclusion (PRONABEC, 2013). The scholarships reduce the educational gap by supporting the enrollment, retention and completion of higher education (Cotler, 2016).

Ferreya et al. (2017) found that 30% of Latin American students aged 18–24 drop out of their studies; in Peru, only 43% of students who enter university complete their studies (PRONABEC, 2013). Due to the health emergency, dropout rates increased from 12% reported in 2012 to 18.2% in 2020 (PRONABEC, 2020). Among the most relevant dropout variables we find: the academic path during basic education (Hernández-Jiménez et al., 2020), from the

economic perspective being within the lowest quintile (Atal and Hernández, 2016; Miranda and Guzmán, 2017), being older than the rest of the group, not having access to a scholarship or educational credit (Sinchí and Gómez, 2018; Motta, 2021).

Likewise, there have been found aspects related to gender (Laverde and Triana, 2018), vocation (Heredia et al., 2015), being first-generation students, among others.

In that sense, PRONABEC beneficiary students fulfill one or more of the previously mentioned characteristics; among those that can be highlighted are that a large percentage come from the interior of the country, which implies going through a process of acculturation that allows adaptation not only at the contextual level, but also, to the educational methodology (Bardales, 2017), most are first generation university students and in the last competitions more women than men have been awarded the scholarship (Pronabec, 2022). This raises the question of what personal and sociodemographic variables are involved in students deciding to continue their studies (Munar, 2020).

Discrimination and exclusion experiences to which scholarship holders are exposed are found mainly in institutional settings, in the relationship with teachers and peers (Guerrero et al., 2019; PRONABEC, 2020). Lack of knowledge regarding the reality of scholarship holders can reinforce stereotypes that affect the teaching-learning process (Rodríguez et al., 2016). The reasons why students may decide not to accept the scholarship include emotional barriers, lack of confidence in leaving their families to move to a new city, economic barriers, health problems, vocational problems, poor performance, and aspects related to the regulations of the scholarship (Aramburú et al., 2015; Aramburú and Nuñez, 2019).

On the other hand, Rodríguez et al. (2016) report that students who are awarded scholarships broaden their socialization experiences in the course of university life, basically during the first year of college. Also, it was found that external resources (support by family, friends, and community), as well as internal ones (perseverance and autonomy) are fundamental for university adaptation, integration and continuance (Roman, 2016); teacher support in the promotion of autonomy allows maximizing learning, favoring personal growth and maturity (Doménech and Gómez, 2011).

This is related to what was found by Langa (2019) where he reports that students from popular backgrounds in Spain, beneficiaries of state funds for education show greater consistency in performance and achievement of academic goals. Therefore, losing this benefit leads them to combine study and work (Triventi, 2014; Langa-Rosado, 2015) or end up dropping out of their academic process (Langa-Rosado, 2018). This relationship highlights the importance of the achievement of objectives as a factor of academic continuity.

Based on the above, it is important to investigate the influence of basic psychological needs (autonomy, competence and relationship with others) on Grit (perseverance and passion) because they are variables that can drive the academic, professional and personal success of students with such particular social, personal, economic and educational characteristics as the students supported by PRONABEC.

## Grit

Grit is a non-cognitive variable that is considered relative to other variables such as personality, self-control, conscientiousness,

perseverance and goal achievement (Duckworth et al., 2007). It is recognized as a personality trait shaped by (a) perseverance in one's effort, working hard in the face of setbacks, and (b) consistency of interest, which implies sticking to set goals (Duckworth et al., 2007; Duckworth and Gross, 2014; Duckworth, 2016). Moreover, perseverance in effort is associated with the diligence/proactivity factor and consistency of interest correlates with self-discipline (Schmidt et al., 2018). People who exhibit it show better results in the learning process as they are less likely to be discouraged by failure and setbacks (Li et al., 2021).

GRIT influences people's performance in various areas such as professional, sports-related and academic, which allows predicting success in those fields (Eskreis-Winkler et al., 2014; Lee, 2017; Eskreis-Winkler et al., 2018; Miller-Matero et al., 2018; Alhadabi and Karpinski, 2019; Jiang et al., 2019; Karlen et al., 2019; Vazsonyi et al., 2019; Daura et al., 2020) raising the question whether talent and intelligence are the sole determinants of success. It is also known as courage, determination, grit, steadfastness, and endurance, among others (Daura et al., 2020).

In addition, there is a relationship between Grit, self-regulation and self-control, important elements for the adaptation process (Eskreis-Winkler et al., 2018; Vazsonyi et al., 2019). Furthermore, Grit involves motivational, dynamic and commitment-related aspects where the aim is to focus on overcoming difficulties to achieve goals (Duckworth et al., 2007; Duckworth and Gross, 2014) rather than to avoid distracting elements. In that vein, Karlen et al. (2019) found that a growth mindset is related to perseverance in effort and consistency in interest, as well as to adaptive motivational patterns, achievement orientation, lower work avoidance, and higher intrinsic motivation.

Hua Ma et al. (2019) identified that Grit is a variable mediating between happiness and social competence, i.e., people who are highly oriented toward happiness and determination also have certain social competencies.

Cerda et al. (2018) identified that women show greater perseverance (Grit) than men, and that, unlike findings from other studies (Duckworth et al., 2007; Duckworth and Quinn, 2009; Christensen and Knezek, 2014; Tyumeneva et al., 2014; Li, 2015) a high perseverance in effort goes necessarily hand in hand with a high consistency in interest. In other words, in order to perform well academically it is necessary to be highly persevering.

In the same sense, Daura et al. (2020) identified that there is a stronger relationship between Grit and academic commitment in women, which the authors attribute to women's tendency to self-discipline and effort (Bazelais et al., 2016).

Exhibiting high GRIT levels implies being committed to working toward goals, featuring strength, discipline, consistency over time, willingness to improve, and determination. In that sense, "Grizzlies" show a lot of interest in what they do, are in constant practice because they want to improve, are autonomous, pursue a purpose that is important to them and to others, and remain hopeful in the face of adversity (Duckworth, 2016).

## Theory of basic psychological needs

Self-determination theory (SDT) is a macro theory that studies personality in social contexts and emphasizes the use of internal

resources for personality development and behavioral self-regulation (Ryan et al., 1997; Deci and Ryan, 2012; Ryan and Deci, 2017).

Specifically, the Basic Psychological Needs Theory (BPN), has been one of the most analyzed in multiple empirical processes (Balaguer et al., 2012; González et al., 2017; Orkibi and Ronen, 2017; Sylvester et al., 2018), identifying three needs that seem to be essential to facilitate the natural inclination toward personal well-being and constructive social development, such needs are the following: the need to be competent, the need to relate and the need for autonomy (Deci and Ryan, 2012; Ryan and Deci, 2017).

Autonomy involves acting out of a sense of choice and own will (Deci and Ryan, 1985). This corresponds to an experience of freedom: Individuals need to feel that they have options to choose and therefore the possibility to execute their own actions and decisions, without referring to individualism or independence.

Competence is generated when a person takes on optimal challenges they feel competent at, in order to generate a certain impact on the environment. This gives rise to a feeling of effectiveness. Bonding represents the experience of relating socially with other individuals in a healthy way. Human beings need that the bonding or relationship with significant others generate a bond of mutual care and affection (Faye and Sharpe, 2008).

According to the theory, healthy psychological well-being stimulates optimal academic performance and this is achieved through the satisfaction of basic psychological needs (Valero-Valenzuela et al., 2019). In the same direction, Orsini et al. (2018), indicate that the satisfaction of these needs promotes self-determined motivation, achieving a large number of positive outcomes.

Moreover, other previous research has found the same relationship, identifying a positive effect on performance when basic psychological needs are met (Black and Deci, 2000). Doménech and Gómez (2011) conducted a study with university students in Spain, where they confirmed that students who do not have their basic psychological needs met will exhibit more avoidance behaviors toward studying, which affects academic performance.

On the other hand, a structured analysis by Jaén et al. (2015) identified a positive relationship between the satisfaction of basic psychological needs (except for autonomy) and a deep learning approach. Similarly, Tomás and Gutiérrez (2019) found a positive relationship with academic satisfaction.

Therefore, based on what has been previously reviewed, the general objective of the present study is to determine the influence of BPN and some sociodemographic variables (sex, being a first generation university student, age and place of origin) on GRIT in a sample of scholarship beneficiaries financed by PRONABEC from a private university in Lima. Having as a hypothesis that the higher the BPN satisfaction the higher the GRIT, on the contrary, the higher the BPN frustration the lower the GRIT.

Regarding sociodemographic variables, it is expected that women present higher levels of GRIT (Cerdeira et al., 2018; Daura et al., 2020), in the same way as first-generation students, since this group tends to develop strategies that allow academic continuity (Berlanga Silvente et al., 2018), similarly, it is likely that younger students have lower levels of GRIT due to the characteristics of the stage in which they are; depending on the place of origin is expected to impact negatively on the levels of GRIT.

It is expected that this research will contribute to the knowledge about the relationship of the proposed variables in the selected sample,

since both BPN and GRIT have an impact on a person's well-being and performance. In that sense, the need for autonomy and competence may be related to GRIT to the extent that a person is willing to preserve and work hard toward their goals around their ability to take control of their actions; likewise, persistence may allow a person to overcome obstacles and challenges. In addition, GRIT may be associated with a strong intrinsic motivation that comes from a genuine interest and enjoyment of the activity itself.

All this information will allow the implementation of intervention programs aimed at reinforcing students' skills and abilities so that they can satisfy their basic psychological needs and allow them to persevere in the achievement of their goals. Likewise, teachers could be trained to contribute to the formation of these important psychological constructs.

## Methods

### Design

The work was developed using an associative strategy and predictive design (Ato et al., 2013).

### Sample

A total of 865 students participating in the PRONABEC scholarship program took part in this study, of whom 54.7% were women. Their ages ranged from 18 to 47 years ( $M=20$ ,  $SD=3.74$ ), with 74.5% living in Lima.

Out of the total, 92.4% of students come from the regular undergraduate modality and one third of the sample is in the first year of studies (1st or 2nd cycle). The scholarship modalities with the highest representation are: Beca 18 - Ordinary (37.3%) and Beca Continuidad (40.6%). In both cases, the scholarship is aimed at students with low economic resources (poverty, extreme poverty, or having received a government bonus) who present a good academic performance. In addition, 44.6% indicate that they are the first generation in their family to access higher education and 30.8% say they have taken at least one course during their academic life.

Participants were selected using non-probability purposive sampling (Otzen and Manterola, 2017). The inclusion criteria were: students who were enrolled and belonged to one of the PRONABEC scholarship programs and were first generation university students.

## Instruments

### Grit scale

The Grit Scale was designed by Duckworth et al. (2007) and adapted by Tortul et al. (2020). This scale comprises 12 items and evaluates two factors (each with 6 items): Consistency of Interest (CI), and Perseverance in Effort (PE). The response uses a Likert-type scale with 5 options and has adequate validity (both factors have an explained variance of 56.19%) and reliability values.

For this study, the reliability evidence was calculated using the omega coefficient, yielding adequate values ( $> 0.70$ ) for the dimensions consistency (0.791) and perseverance (0.822).

Basic Psychological Needs Satisfaction and Frustration Scale The second instrument used was the Basic Psychological Needs Satisfaction and Frustration Scale in its Spanish version (Chen et al., 2015). The scale comprises 24 items divided into 3 subscales, each corresponding to a basic psychological need (autonomy, competence and relatedness), which are present within satisfaction and frustration (Chen et al., 2015).

For this study, the reliability evidence was calculated using the omega coefficient, yielding adequate values ( $> 0.70$ ) of 0.76 and 0.74 for satisfaction and frustration of the need for autonomy, 0.80 and 0.79 for satisfaction and frustration of the need for relatedness and, finally, 0.83 for both satisfaction and frustration of the need for competence.

## Procedure

As part of the ethical aspects, the authors were requested to grant permission to use the instruments applied. Next, the project was submitted to the Ethics Sub-Committee for approval. After its evaluation and acceptance, communication with the area in charge of the scholarship holder support program was established by mail, where the goal and the informed consent for the application of the instruments were specified. In addition, a request was made to access the e-mail database of all university students who had active scholarship holder status during the semester in which this study was carried out. After reception, acceptance and authorization of the study by the area in charge, the data collection process began by sending the virtual form, which was available for 3 weeks. Finally, the data was processed.

## Data analysis

The following analyses were performed: (a) descriptive analysis to measure the standard deviation of all variables; to determine the reliability, an internal consistency analysis was conducted using the omega coefficient, which should be greater than 0.70; (b) correlational analysis are encouraged to use Pearson's  $r = 0.10, 0.20, \text{ and } 0.30$  (small, medium, and large effect) Cohen's (Brydges, 2019); and (c) multiple regression analysis considering the dependent variable GRIT and the independent variables BPNs (satisfaction and frustration) and some sociodemographic variables such as gender and being a first-generation higher education student in the family. Regarding collinearity, this must take a value lower than 5 to be able to declare absence of collinearity (Hair et al., 2011). The information was processed and analyzed using the statistical program JAMOVI 1.6.23 solid.

## Results

### Descriptive correlational analysis

In this first analysis, we seek to relate the 3 subscales of the BPN (autonomy, competence and relationship) in their satisfaction-frustration dimensions and the two factors of the GRIT (perseverance and consistency). The results show that participants have higher scores on the satisfaction dimension and lower scores on the frustration

dimension of the BPN. Competence satisfaction had the highest average score, while competence frustration showed the greatest variability. As for Grit, the perseverance dimension displays the highest score, while the consistency dimension shows the highest variability.

A positive, high and significant correlation was identified between perseverance and BPN satisfaction. On the other hand, correlation with the relatedness dimension is positive, moderate and significant. Additionally, a positive, moderate and significant relationship was found between consistency and BPN satisfaction. This shows that GRIT is positively related to BPN satisfaction: The higher the GRIT level, the higher the probability of meeting BPN and vice versa. Conversely, a negative relationship between GRIT dimensions (consistency and perseverance) and BPN frustration is identified. Regarding total scores, it was found that total Grit is positively related to BPN satisfaction, showing a positive, high and significant correlation ( $0.174^{***}$ ) and a negative, high and significant relationship ( $-0.654^{***}$ ) with BPN frustration (see Table 1).

## Predictive analysis

A SEM was specified and tested to predict GRIT. The predictors were NPB en competencia, relación y autonomía tanto para satisfacción y frustración, sex and generation first. NPB was modeled as a latent variable. Predictors were assumed to be correlated. This model fit the data well:  $\chi^2(623) = 1209.906, p < 0.000$ ; RMSEA = 0.033 90% CI [0.030–0.036]; CFI = 0.925; SRMR = 0.037. Standardized parameter estimates are presented in Figure 1.

## Conclusion and discussion

The general purpose of this research was to determine the influence of Basic Psychological Needs (BPN) and some sociodemographic variables on GRIT in a sample of PRONABEC-funded scholarship holders at a private university in Lima. Hypothesis 1 was that the satisfaction of BPNs influences GRIT; the greater the frustration of BPNs, the lower the GRIT; while Hypothesis 2, with respect to the sociodemographic variables, it was found that women and first-generation university students have higher levels of GRIT. Likewise, it is considered that the younger the age, the lower the GRIT levels and that the place of origin may have an influence on lower GRIT levels.

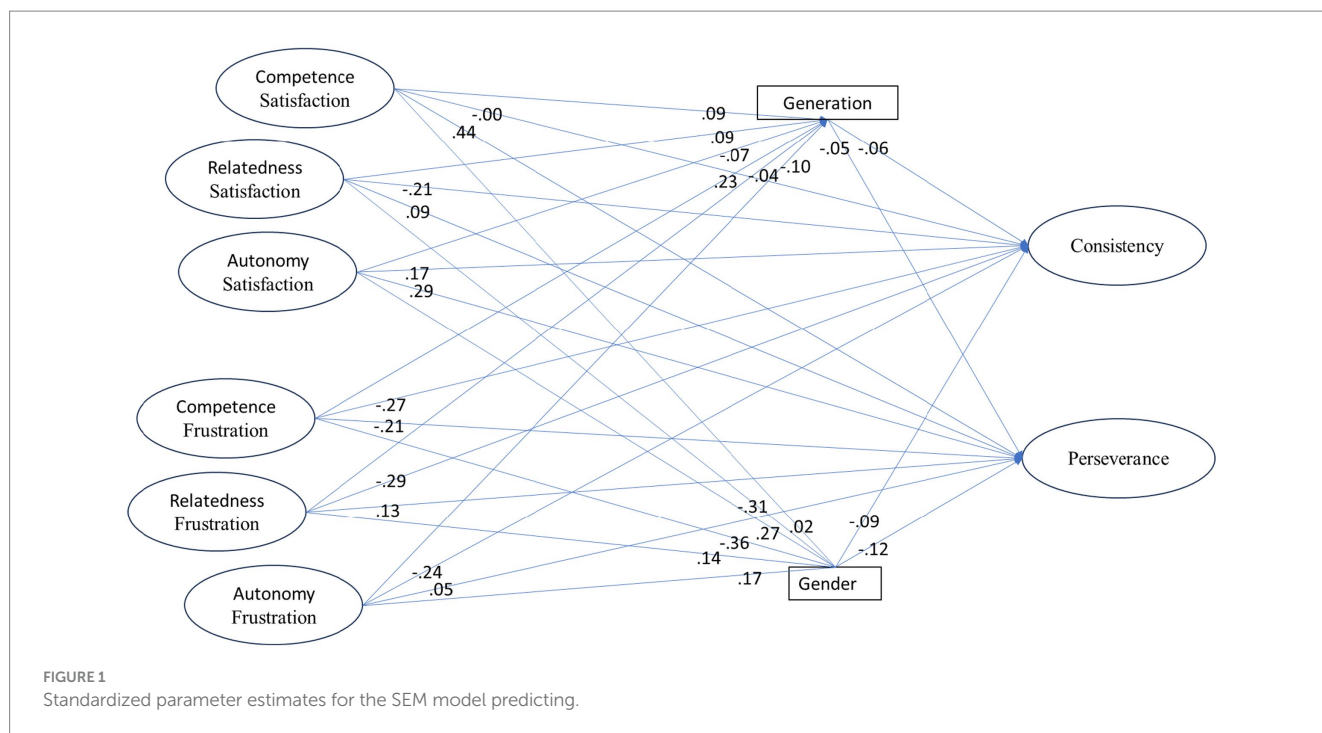
It was found that the satisfaction of the BPN (autonomy, relationship and competence) influence GRIT, which may be due to the fact that both variables have a significant impact on a person's well-being and performance. In that sense, autonomy and competence imply that the person can take control over his actions and decisions, in addition to showing effectiveness in what they undertake; by relating to the GRIT the student will be willing to persevere and work hard toward their goals, taking control of their actions and be directed to the development of skills.

Likewise, we can deduce that GRIT is associated with a strong intrinsic motivation, since the development of a task comes from a genuine interest and enjoyment of the activity itself. Therefore, when people feel that they have control over their actions, they improve their skills and have a more meaningful connection with their goals.

TABLE 1 Descriptive correlational analysis.

Variables	Min.	Max.	<i>M</i>	<i>DE</i>	$\omega$	1	2	3	4	5	6	7	8	9	10	11
1. Frustration relationship	4.00	18.0	9.00	2.78	0.79	-	-	-	-	-	-	-	-	-	-	-
2. Satisfaction competence	5.00	20.0	17.0	2.38	0.83	-0.49***	-	-	-	-	-	-	-	-	-	-
3. Frustration competence	4.00	20.0	10.0	3.34	0.76	0.63***	-0.65***	-	-	-	-	-	-	-	-	-
4. Satisfaction autonomy	6.00	20.0	16.0	2.28	0.76	-0.49***	0.63***	-0.56***	-	-	-	-	-	-	-	-
5. Autonomy frustration	4.00	20.0	10.0	2.87	0.74	0.58***	-0.47***	0.62***	-0.51***	-	-	-	-	-	-	-
6. Satisfaction relationship	6.00	20.0	16.0	2.37	0.80	-0.63***	0.52***	-0.49***	0.59***	-0.43***	-	-	-	-	-	-
7. Consistency	6.00	30.0	21.0	4.01	0.79	-0.47***	0.39***	-0.51***	0.38***	-0.49***	0.32***	-	-	-	-	-
8. Perseverance	9.00	30.0	24.0	3.67	0.82	-0.41***	0.63***	-0.54***	0.57***	-0.41***	0.48***	0.51***	-	-	-	-
9. Sum GRIT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10. Sum frustration	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.65***	-	-
11. Sum satisfaction	-	-	-	-	-	-	-	-	-	-	-	-	-	0.63***	-0.72***	-

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .



In this sense, the scholarship students are looking for support strategies that allow them to fortify their personal and academic resources so that they can face university life. This is consistent with what has been identified in various research studies, which reaffirm that working to strengthen GRIT is associated with a higher degree of well-being and better academic performance, allowing them to develop mental well-being, coherence and connection with the self, self-control, sustained attention, emotional intelligence and resilience, which contribute to the achievement of long-term goals (Akbag and Ümmet, 2017; Muenks et al., 2017; Sharkey et al., 2017; Kalia et al., 2018; Kannangara et al., 2018; Gupta and Sudhesh, 2019; Werner et al., 2019; Datu, 2021; Özer, 2021). In other words, people with GRIT are resilient in the face of difficulties, are more flexible, cope with stress, and do not give up easily.

It is important to keep in mind that scholarship students sometimes experience emotional disturbances due to stress and anxiety derived from the pressure to perform well academically and complete their studies. In addition, the health situation due to COVID-19 caused difficulties for them, such as: connection problems, lack of interaction with teachers and classmates, difficulty in learning, impact on intrinsic motivation, less favorable family and economic conditions, among others.

Therefore, guidance becomes relevant in the generation of a support and containment network for the positive management of emotions (Daura et al., 2021; Garcia-Hernández et al., 2021), being a protective element in the process of adaptation to university life under the circumstances brought by the pandemic (Fernández-Martín et al., 2018; Camacho Manjarrez et al., 2019; Garcia-Hernández et al., 2021), but above all because of the risk factors to which a sponsored student could be exposed to.

When students have their psychological needs met and develop a high level of GRIT in the academic environment they are more likely to be committed to their studies, taking into account that in this area a first achievement for scholarship recipients was to obtain a vacancy, students invest considerable time and effort to meet the demands of

the educational institution, obtaining good grades, thus showing perseverance in the academic environment. Therefore, these students are considered to possess autonomy, self-control, some personal strength, dedication, motivation, adequate academic self-concept, and high academic expectations (Kannangara et al., 2018; Vaknin-Nusbaum et al., 2018; Wills and Hofmeyr, 2019; García-Crespo et al., 2019a,b; Owusu et al., 2020).

This is consistent with what was found by Navarro (2015), who identified that 68% of the best students possessed scholarship status, in addition, the percentage of undefeated students of scholarship 18 was triple compared to regular students, evidencing the relationship between academic performance and self-concept, since the opinions and concepts they have of themselves are relevant to emotional well-being and mental health (Closas et al., 2018).

Conversely, it should be mentioned that the financial support received by scholarship students is a great contribution, since this money does not only cover academic expenses such as tuition fee and registration fee, as well as the baccalaureate or degree process, but also provides them with the necessary resources to cover other educational expenses such as a laptop, supplies, transportation, food and lodging in case scholarship recipients may require it.

This support is expected to provide not only financial stability but also socio-emotional stability so that scholarship holders can focus on the educational process, allowing them to better develop their academic, personal and professional skills. Several studies have shown that financial support contributes to increased commitment and patience (Johnson, 2006; Cantón and Blom, 2010), increases the possibility of staying on and graduating (Carales, 2020), positively influencing student success (Graziosi et al., 2020).

Although it may seem that there is no relationship between financial support and the study variables, it is considered relevant to mention that the monthly stipend that students receive could be contributing to the autonomy and perseverance of students insofar as having these resources can facilitate resistance to temporary economic difficulties and maintain a continuous focus on long-term goals.

As part of the sociodemographic variables, it was found that women have higher levels of GRIT, this may be due to the fact that women are considered more predisposed to the development of social skills, goal-directed behavior, organization and consistency in tasks, which may be influenced by social and cultural norms, where it is expected that women have greater empathetic, conversational and disciplinary skills.

Our results agree with those found by [Cerdeira et al. \(2018\)](#), who conducted a study in a similar sample and found that women show greater inclination to learning because they consider it a challenge, express greater enthusiasm, self-discipline and tenacity, which is why they may display better academic performance. Also, they show a higher level of consistency of interests than men, which implies adherence to a long-term goal ([Daura et al., 2020](#); [Quintana, 2020](#)).

However, other studies did not find any gender-based GRIT differences, possibly due to the cultural context as the studies were conducted in other countries such as India ([Ali and Rahaman, 2012](#)), the United States ([Duckworth et al., 2007](#); [Duckworth and Quinn, 2009](#)) or on an ethnically diverse sample ([Eskreis-Winkler et al., 2014](#); [Credé et al., 2017](#)).

Regarding the variable first generation of students, it was found that this group of students presents higher levels of GRIT, this may be a product of the motivation and perseverance that they must fortify and maintain throughout their career. Considering that being first generation, they feel a greater affective and social responsibility, setting as an objective to lift the family out of poverty and lead the intra-family change at the academic, social and economic levels.

These results match with those identified by [Berlanga Silvente et al. \(2018\)](#), where it was found that scholarship beneficiaries present lower study avoidance actions with the aim of overcoming the academic difficulties with which they arrive, as obtaining the scholarship plays an important role as a key element that influences the effort and educational commitment.

Most scholarship students do not have someone in their family circle who can guide, orient, listen to and help them solve the difficulties inherent to university education. This family support is important because it makes them aware of possible scenarios they may be facing, as well as of subjective experiences related to the process of integrating into university life ([Linne, 2018](#)).

These difficulties can cause social isolation or trouble relating to their peers, thus leading to higher dropout rates in the first year of studies, which directly affects students with lower social, cultural and economic capital ([Donoso and Cancino, 2018](#)). Nevertheless, it has been identified that first-generation students in conditions of vulnerability tend to persist in achieving their goals, with women showing greater determination in achieving the academic goals; this is attributed to a higher level of autonomy and gender empowerment ([Linne, 2018](#)).

Based on the above, it is recommended not only to consider the socio-economic, cultural, academic and emotional characteristics of the scholarship holders, but also to review the educational policies implemented by the institutions, which tend to be oriented toward students whose main role is to study and who have social, cultural and economic support. However, the presence of students who present challenges resulting from the various roles they fulfill, such as caring for their children or siblings, being single mothers, working, living far from the university, etc. ends up having an impact on their performance so that they fail at least one course in each semester.

Therefore, it is suggested to have greater academic flexibility in policies and to establish support programs that respond to the

particularities of this student population and involve the entire educational community ([Flanagan Borquez, 2017](#)). Also, it should be considered to provide training to teachers, tutors, mentors ([Cotler, 2016](#); [Lozano-Jiménez et al., 2021](#)) and administrative staff on the characteristics of students in order to reduce situations of discrimination and institutional exclusion; moreover, academic support should be provided so weaker students can catch up; and work with families should be promoted in order to strengthen support networks ([Flanagan Borquez, 2017](#)).

It is worth mentioning that the limitations of the study include the selection of the sample, which was based on non-probabilistic sampling; the virtual collection of information, which made it impossible to clarify issues and/or answer questions from participants; the health situation in the country, which may have had an impact on the participants' responses; and, finally, the influence of social desirability should be taken into account.

It can be concluded that the fulfillment of basic psychological needs (BPN) plays a role in the formation of qualities such as tenacity and persistence to achieve goals. When this takes place in a population facing situations of vulnerability, it can promote the development of stronger personal resources, which in turn facilitates more favorable outcomes. Considering that people with an adequate level of GRIT can persevere when faced to situations of failure and do not lose motivation over time, instead they creatively look for new possibilities to achieve what they have set out to do.

At the institutional level, identifying these aspects allows us to see the importance of establishing educational, emotional and professional support for students in vulnerable conditions, in order to mitigate the inconsistency in the achievement of their goals or the increase in student desertion.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

The studies involving humans were approved by an ethics subcommittee of the Faculty of Psychology of the Peruvian University of Applied Sciences. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## Author contributions

NM-T: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. MM-M: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. RC-S: Data curation, Formal analysis, Methodology, Project administration, Validation, Visualization, Writing – review & editing. VT: Data curation, Formal analysis, Methodology, Project

administration, Validation, Visualization, Writing – review & editing. RB: Data curation, Formal analysis, Methodology, Project administration, Validation, Visualization, Writing – review & editing. TC-R: Data curation, Formal analysis, Methodology, Writing – review & editing. MR-B: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

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## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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