The mediating effect of academic experience on the relationship between personal resilience and satisfaction of students registered in student assistance

O efeito mediador da vivência acadêmica na relação entre resiliência pessoal e satisfação de estudantes cadastrados na assistência estudantil

El efecto mediador de la experiencia académica sobre la relación entre la resiliencia personal y la satisfacción de los estudiantes registrados en la asistencia al estudiante

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Abstract

Bearing in mind that each student has distinct resilience characteristics that help him to face the difficulties that interfere with his academic satisfaction, the general objective of this work was to verify the impact of personal resilience and academic experience on the satisfaction of students registered in student assistance for a Federal University. As for the methods and procedures, a quantitative approach was used, in which an online questionnaire was applied to students registered in the student assistance of this university for data collection, with a return

of 493 complete answers. Data analysis was performed using the Structural Equation Modeling technique, using the Smart-PLS software. The results showed that personal resilience positively impacts the student's academic experience and that this in turn positively impacts student satisfaction with the University. On the other hand, it was found that personal resilience does not directly impact satisfaction, only indirectly, through academic experience. Thus, the academic experience is presented as a mediating factor in this relationship. Furthermore, the proposed model was able to explain 65.20% of the students' satisfaction with the University.

Keywords: Student assistance; Academic experience; Personal resilience; Satisfaction.

Resumo

Tendo em vista que cada estudante possui características distintas de resiliência que o auxiliam a enfrentar as dificuldades que interferem em sua satisfação acadêmica, o objetivo geral deste trabalho foi verificar o impacto da resiliência pessoal e da vivência acadêmica na satisfação dos estudantes cadastrados na assistência estudantil de uma Universidade Federal. Quanto aos métodos e procedimentos, foi utilizada uma abordagem quantitativa, na qual se utilizou um questionário *online* aplicado aos estudantes cadastrados na assistência estudantes cadastrados na assistência estudantil dessa universidade para a coleta de dados, com um retorno de 493 respostas completas. A análise dos dados foi realizada por meio da técnica de Modelagem de Equações Estruturais, com o uso do *software* Smart-PLS. Os resultados mostraram que a resiliência pessoal impacta, também de forma positiva, a satisfação do estudante com a Universidade. Por outro lado, constatou-se que a resiliência pessoal não impacta diretamente a satisfação, somente indiretamente, por meio da vivência acadêmica. Assim, a vivência acadêmica apresenta-se como um fator mediador nessa relação. Ademais, o modelo proposto foi capaz de explicar 65,20% da satisfação dos estudantes com a Universidade.

Palavras-chave: Assistência estudantil; Vivência acadêmica; Resiliência pessoal; Satisfação.

Resumen

Teniendo en cuenta que cada estudiante tiene diferentes características de resiliencia que lo ayudan a enfrentar las dificultades que interfieren con su satisfacción académica, el objetivo general de este trabajo fue verificar el impacto de la resiliencia personal y la experiencia académica en la satisfacción de los estudiantes matriculados en la asistencia al estudiante en una Universidad Federal. En cuanto a los métodos y procedimientos, se utilizó un enfoque

cuantitativo, en el cual se aplicó un cuestionario en línea a los estudiantes inscritos en la asistencia estudiantil de esta universidad para la recolección de datos, con una devolución de 493 respuestas completas. El análisis de los datos se realizó mediante la técnica de Modelado de ecuaciones estructurales, utilizando el software Smart-PLS. Los resultados mostraron que la resiliencia personal impacta positivamente en la experiencia académica del estudiante y que esto a su vez impacta positivamente en la satisfacción del estudiante con la Universidad. Por otro lado, se encontró que la resiliencia personal no impacta directamente la satisfacción, solo indirectamente, a través de la experiencia académica. Así, la experiencia académica se presenta como un factor mediador en esta relación. Además, el modelo propuesto logró explicar el 65,20% de la satisfacción de los estudiantes con la Universidad.

Palabras clave: Asistencia al estudiante; Experiencia académica; Resiliencia personal; Satisfacción.

1. Introduction

It is important to think about equity in higher education in order to minimize the effects of social inequalities, in the sense that equity is understood as a way to make the student's stay in the institution more just, with help and opportunities (Costa, 2010). For the author, compensatory mechanisms are necessary, and it is necessary to think about focused and punctual policies that lead to equity.

Equity in higher education should not only refer to access, it is necessary that these students are able to remain at the University with quality. According to Felicetti and Morosini (2009), equity represents the intensity in which these students benefit from education and training at the University, though not only access, but also opportunities, accompaniments and results. For the authors, only when the treatment in relation to learning corresponds to the specific needs of each student can it be said that the educational system is equitable.

In the current scenario, we are moving towards equity, but we are still far from reaching its final goal. According to Costa (2010, pp. 176), the permanence of students in higher education will only be fair when "each individual is treated according to their needs, taking into account income, socioeconomic difficulties, and psychological and pedagogical aspects".

The creation of quota policies in higher education, which aims at social inclusion, contributed to the inclusion of students with low socioeconomic status in this level of education. Therefore, there is an increasing importance of discussing the question of the

permanence of students affected by this policy (Assis et al., 2013). This democratization, in addition to the issue of access, must also be focused on the permanence of these students, so that they can reduce the inequalities suffered by them that increase the difficulties of successfully pursuing academic life (Vasconcelos, 2010). According to Oliveira and Morais (2015), a political-social, pedagogical and psychological intervention is necessary to minimize these difficulties and avoid low income and high dropout rates.

According to Vasconcelos (2010), student assistance seeks to provide the necessary resources for these students to overcome obstacles and develop well during graduation, obtaining a good academic performance and minimizing the chances of dropping out or locking the course. Despite financial support, students face difficulties related to several factors during their time at the University. From the entrance to the exit of the student in the educational process, some obstacles appear, creating difficulties in the student's trajectory in the university environment (Veloso & Almeida, 2002).

An important reflection is on the satisfaction of this low-income student in relation to the University, considering the difficulties they faced during the course and their personal resilience. According to Vieira, Milach and Huppes (2008) satisfaction is a major factor in the student's academic education, interfering in their learning and, consequently, in their professional competence. In this sense, it is important to study the construct resilience, since it is related to student academic performance, being important for the understanding of overcoming the difficulties faced by these students (Garcia & Boruchovitch, 2014). Resilience is the student's ability to overcome adversity, that is, to achieve academic success despite the personal and social difficulties he faces, and he may also perform better than his colleagues, who are, in part, spared from suffering and difficulties due to their families (Bello, 2011).

Students who have greater resilience characteristics are better able to face the adversities found in social and academic life, and, consequently, have better results (Garcia & Boruchovitch, 2014). In this scenario, resilience appears to be a factor that helps in the student's academic life, minimizing the negative effect of the difficulties faced in the student's satisfaction with the University and, consequently, in their permanence, because the higher the student's adaptation level, greater tends to be its self-efficacy and self-regulation of learning, which are important for academic success (Dalbosco, 2018).

The University alone will not be able to solve social problems, but, as far as it can, it will have to propose strategies to modify the situations that somehow hinder students' academic life. For Almeida (2007), when the University does not look more closely at the

inequalities that occur within its field, it ends up intensifying the existing disparities. Staying in higher education must be understood as an interaction between structural conditions of society and the actions that are within its limits. In this sense, this article aims to verify whether, through an increase in the perception of academic experience on the part of the student registered in student assistance, the student's resilience leads him to be more satisfied with the University.

Therefore, the elaboration of the research is justified, since it aims to better understand the perception of the university student registered in student assistance on satisfaction with the university, presenting a model with constructs capable of explaining it. Thus, it is possible for the University to develop actions related to the increase of resilience and academic experience so that students are increasingly satisfied. In addition to making inferences based on empirical data, it is also possible to establish strategies to modify possible situations that are causing difficulties for these students.

2. Literature Review

The academic experience seems to need to consider the resilience mechanisms so that there is the minimum satisfaction required to motivate individuals to continue their learning and training challenges. In this sense, here the main aspects of these three phenomena will be pointed out to understand the architecture of the hypotheses presented at the end of the section.

2.1 Personal resilience

Some individuals experience certain negative situations and, in a way, have little impact in relation to them, thanks to their resilience characteristics. Resilience refers to the ability to face and build something positively, in negative situations (Rodrigues, 2016; Pessoa, 2014). For Brandão (2009) resilience refers to the strength, flexibility and overcoming of a person who breaks obstacles and deals with his difficulties throughout life. The author uses as an example of resilience an elastic band, which, under pressure, modifies its structure, but returns to its original shape soon after being released.

The term resilience refers to factors that positively favor an individual's overcoming a situation of adversity. It is a balance between risk and protection factors and can vary over time, depending on each context. Having resilience characteristics goes beyond just surviving

a traumatic event, it also involves an ability to be transformed (Montes, Lupercio & González, 2016).

Resilience is a dynamic process that can vary according to the difficulty faced. Each person faces this process in a different way, can use different defense mechanisms, can suffer differently in each situation. The adversities may even be similar, but everyone will face them in their own way (Brandão, 2009). Also, as the environment and mental conditions change over time, the individual's resilience in relation to a context can also change (Wang & Gordon, 2012).

Although there are several concepts and ways of measuring resilience in the literature, it is appropriate to state that in this work it is understood as a dynamic process where the individual overcomes adversity in a positive way, remaining healthy and not breaking down when experiencing stressful situations. It is considered important to study personal resilience, since from it one can understand more deeply the human responses in relation to the challenges and adversities faced (Lopes & Martins, 2011).

In this article, we used the Connor and Davidson (2003) Resilience Scale 10 (CD-RISC 10) revalidated by Campbell-Sills and Stein (2007) with a sample of undergraduate students. According to Salisu and Hashim (2017) it is one of the most used scales and with the best psychometric properties found in the literature. Another justification of choice is that this scale has already been adapted and validated in the Brazilian context, presenting a good internal reliability index (Cronbach's alpha of 0.82) (Lopes & Martins, 2011). In addition, it is considered a good scale to be applied to a population with low socioeconomic status (Coates, Phares & Dedrick, 2013).

2.2 Academic experience

Entering a University brings the student a series of changes in his life, because during the course he experiences several situations that can be presented in a positive or negative way, and it is up to him to adapt. This admission involves an adaptation process that demands a lot from the student, even though it is considered a potential for human development (Nogueira, 2017). For Andrade et al (2016), the academic experience is a set of experiences lived by university students that reflect on their performance during their life at the University.

Among these experiences, it is possible to mention the student's change of city so that he can study, the different reality of high school with different methodologies of the teachers,

the demand for a more critical and reflective posture, deadlines to be met and excessive study hours that they demand time management, study strategies and new sleep routines (Adachi, 2009; Oliveira & Morais, 2015; Lameu, Salazar & Souza, 2016; Fernandes et al., 2018; Arino & Bardagi, 2018). In the literature, there are also difficulties related to the institution's infrastructure (Carelli & Santos, 1998; DIAS; Theóphilo & Lopes, 2009), the financial situation where many students need to work to help support their home (Veloso & Almeida, 2002; Breda, 2018) and also for personal reasons, such as relationship difficulties and level of self-esteem (Almeida, 2007; Lameu et al., 2016).

Many students move to another city to study, some leave a metropolis for a city in the countryside, others move from a city in the countryside to a city. In addition, high school is left behind, with an orientation towards the reproduction of knowledge, and you have to get used to academic life at a University, which requires a critical and reflective stance, and then you have to adapt to a new reality quite distinct from high school (Adachi, 2009; Oliveira & Morais, 2015; Dias & Costa, 2016).

In general, in addition to natural uncertainties, such as change of residence, removal from the family, the student encounters some external stressors (deadlines to be met, teacher methodology, etc.) and internal stressors (relationship difficulties, self-esteem, etc.). These difficulties end up hindering the adaptation and quality of life of this student during his academic experience (Lameu et al., 2016). Arino and Bardagi (2018) bring other stressors that demand organizational behavior from students, such as: excessive study hours, new sleep routines, time organization, study strategies, among others. These factors can generate a state of anxiety, disappointment, irritability, concern and impatience during academic life (Lameu et al., 2016; Fernandes et al., 2018).

For Carelli and Santos (1998), the minimum necessary conditions must be guaranteed for the viability of the human and professional training of this student. The authors cite some difficulties that can influence the student's academic performance, such as: low quality of teaching, the lack of infrastructure in the organization, the problem of transportation, libraries, equipment and laboratory conditions, salary issues involving teachers and employees and involvement in extra-class tasks such as reading texts, solving problems and engaging in research.

Through research conducted by Dias et al (2009), it is possible to verify that, even after a decade, some difficulties continue to appear as factors that lead to student dropout at the University. Among these factors are those that are considered as internal causes (infrastructure, faculty, socio-educational assistance, research activities, curriculum, student

monitoring and assistance, extension activities) and those considered external causes (wrong choice of course, educational deficiency basic education, repetition, discontent with the course and its future profession, financial problems, difficulty in reconciling work and study, housing, distance between residence and University and personal problems).

There is also a series of difficulties faced by students with economic disadvantage in their insertion in the University, where they often combine work and study (Dias & Costa, 2016). Students in a situation of socioeconomic vulnerability, for example, are often concerned about their families, and in some cases, they are the only providers of income. These financial concerns distract students and are often a reason for dropping out of school (Breda, 2018). In a survey carried out at the Federal University of Espírito Santo, Sales et al (2016) identified that low-income students who receive student assistance are more likely to complete the course, but the aid received by these students is often insufficient, which can takes them to the University dropout.

When going through these difficulties during the course, many students end up giving up and evading the University, as can be seen in a survey conducted by Veloso and Almeida (2002, pp.146) at the Federal University of Mato Grosso, where it was found that "[...] Evasion, more than a student-dependent process, is an institutional phenomenon, reflecting the absence of a policy for the student to remain in the course of his choice ".

With all these factors that students experience during their academic life, it is of utmost importance to develop actions to prevent and strengthen mental health, psychological counseling and assistance to the student in order to favor more positive academic experiences (Arino & Bardagi, 2018; Lameu et al., 2016; Andrade et al., 2016; Fernandes et al., 2018; Padovani et al., 2014).

The students' beliefs about their own ability also influence their mental health, which may favor or hinder the process of coping with adversity during the academic experience, which will also be important in the resilience process. Therefore, a good level of self-efficacy helps to cope with academic stressors, generating a better quality of life for these students and a more positive academic trajectory (Arino & Bardagi, 2018).

In the literature, in surveys related to the theme "Academic Experience", in its vast majority, the Academic Experience Questionnaire in its reduced version (QVA-r), created by Almeida, Soares and Ferreira (2002), which addresses five dimensions: 1) Personal (assesses physical and psychological well-being, emotional balance, emotional stability, optimism and self-confidence), 2) Interpersonal (assesses relationships with colleagues, more intimate relationships, friendships and seeking help), 3) Career (assesses feelings with the course,

career and vocational projects), 4) Study (evaluates study habits, time management, use of learning resources and test preparation) and 5) Institutional (appreciation with the institution, desire to stay at the institution, knowledge and assessment of infrastructure). The dimensions showed a good internal consistency, with Cronbach's alpha above 0.70, with the institutional dimension presenting 0.71 and the career dimension 0.91. The scale, therefore, has good results regarding its validity. Granado et al. (2005) validated the instrument in the Brazilian context with a sample of 626 students. It is worth mentioning that the 55 indicators of the scale were extracted from the work of Schleich (2006). In this sense, to measure the construct "Academic Experience" in this article, the Academic Experience Questionnaire in its reduced version (QVA-r) was used.

2.3 Academic satisfaction

Academic satisfaction refers to the individual's perception of the University and the achievement of their academic expectations (Hirsch et al., 2015). It can positively or negatively influence students' academic performance and social relationships. A negative satisfaction can lead to a possible dropout from the course or even damage to students' physical and mental health (Ramos et al., 2015). Bearing in mind that the University plays an important role in the construction of knowledge, it must work on ways of developing conducts that satisfy the expectations of students, and should expand its knowledge about itself and the needs that its students face, thus exercising its functions scientific and social to promote a satisfactory academic experience (Vendramini et al., 2004; Hirsch et al., 2015).

Knowing the satisfaction or dissatisfaction of these students helps in understanding the impact of higher education on student development. What the student expects to find at the University and what he really finds can reduce his performance, his integration and lead him to failure or abandon the course (Schleich, Polydoro & Santos, 2006). In order to have a satisfactory performance, it is important to understand the factors that lead to students' satisfaction and dissatisfaction, based on their perception of their relationships, the methods used by the institution and all the factors they experience during the training day (Suehrio & Andrade, 2018).

Considering that the perceived quality of the service provided involves a relationship between student expectations and the reality offered by the University, the negative gap generated leads to dissatisfaction in the academic experience of these students (Schleich, 2006). Therefore, it is important to take into account the variable academic satisfaction, as it

is fundamental for the decision making of university managers, aiming at the improvement and quality of academic services, which will guarantee student loyalty and good credibility with the community. (Ramos et al., 2015; Suehrio & Andrade, 2018).

To measure the "Academic Satisfaction" construct, the Academic Life Satisfaction Scale (ESVA), created and validated by Nogueira (2017), was used. ESVA is a Likert scale and has two components: Personal Satisfaction and Satisfaction with the Academic Environment, each with four items.

2.4 Theoretical construction of hypotheses

University life has many sources of stress and many risk factors and developing resilience characteristics is important for students to adapt to their new role. Therefore, it can be said that the resilience characteristics act in a positive way to overcome the adjustment problems that occur during university life (Rahat & Ilhan, 2016). Garcia and Boruchovitch (2014) state that the resilience construct has a significant and strong positive correlation in relation to causal attributions for school success or failure. Since, the higher the resilience level of the student, the better he faces adversity, thus presenting better academic results. For Rahat and Ilhan (2016), it is important to develop actions to help students adjust to university life. The University should direct positively coping efforts to develop resilience characteristics for students, such as guidance and counseling centers to identify problems and provide social support to them, seeking to facilitate personal, social, emotional and academic issues.

In a research on resilience among male Latin university students, Patrón and Garcia (2016) identified that these students were not necessarily born with resilient characteristics, they found motivation in oppressive situations and in challenging events. Despite not having an easy life, these students found mechanisms to facilitate their success despite the adversities. For Breda (2018), resilience processes seem useful to increase satisfaction with life, which allows students to progress academically. Furthermore, in a survey conducted with university students, Santos, Zanon and Ilha (2019) highlighted the student's self-efficacy and social interaction as the most relevant factors that contribute to academic satisfaction. Students who are more self-effective and have a greater capacity for interaction are more satisfied with the chosen course.

H1: Personal resilience positively impacts student satisfaction with the University.

H2: Personal resilience positively impacts the student's academic experience.

It is extremely important to identify the aspects that contribute to the growth of academic satisfaction so that, in this way, a more specific intervention is possible that contributes to the success and satisfaction of university students who are going through a critical moment of development (Santos et al., 2019). Ramos et al. (2015) cite factors that must be considered in order to ensure that university students have greater academic satisfaction, such as, for example, the course being geared to the needs of students and ensuring pedagogical and psychological support to students who are dissatisfied.

Academic life is influenced by numerous variables that, in turn, influence students' academic progress, leading to their personal maturation. This maturation must happen in conjunction with a career development, where the University must offer opportunities during a continuous process to provide a satisfactory and positive academic experience for these students (Mognon & Santos, 2013). Universities must be more responsive to the needs of students during their academic experience, in order to guarantee higher levels of satisfaction, since students who have a more satisfactory academic experience also have higher levels of satisfaction with the University (Santos & Suehiro, 2007).

H3: The academic experience positively impacts student satisfaction with the University.

3. Methodological Procedures

This was a survey, whose field study was done with students registered with Student Assistance at a Brazilian federal university. He used quantitative techniques to generate the results shown here, in line with the recommendations of Nascimento-e-Silva (2012; 2020a; 2020b; 2020c). To achieve the objectives intended by this investigation, the methodological path exposed here was designed, pointing out the procedures and techniques used. The goals were achieved by testing the hypotheses presented in the previous section.

3.1 Description of the sample

The sample consisted of 493 students registered in student assistance at a Federal University. Therefore, all have an average monthly per capita household income less than or equal to 1.5 Brazilian minimum wages (approximately \$ 260 in September 2020 values). Regarding the age of the respondents, the average age found is 23 years old, the minimum is

17 years old and the maximum is 59 years old, the vast majority (81.5%) being in the age group between 17 and 25 years old.

Of the respondents, the majority are female (68.4%), while the male ones correspond to 31.6% of the sample. Regarding marital status, 89.9% of the sample is made up of single students and those with short but present cases of married students, in a stable relationship, divorced and widowed. Still, 35% of students are enrolled in the initial periods of the course (1st to 3rd term), 37% are enrolled between the 4th and 6th term, 23% between the 7th and 9th period and 5% between the 10th and 12th period.

3.2 Data collection

As this is a quantitative research, a questionnaire applied online to all students registered in the assistance of a Federal University was used for data collection. The questionnaire was sent by email to students in January 2020, using a platform provided by the University itself. The questionnaire sought to determine some sociodemographic data and the level of agreement of students with the proposed statements on the topics studied, through a Likert scale with a choice option ranging from 1 to 5, ranging from "nothing to see with me / totally disagree / never happens "up to the maximum degree of" everything to do with me / totally agree / always happens ". In all, 493 valid responses were obtained.

3.3 Data analysis

The collected data were treated by means of statistical analysis and the Structural Equation Modeling (SEM) technique and the partial least squares method (PLS) were used for analysis. According to Hair and others (2016) when there is not much knowledge a priori about the relationships of the structural model, which is the case of this research, the use of PLS-SEM is recommended. During data analysis, the Smart-PLS® 3 software was used.

Thus, the modeling of structural equations was adequate to the present study, since it allows verifying the existence of significant relationships between the constructs through a statistical analysis, confirming or rejecting the hypotheses that were theoretically developed. Analyzes were developed both structural model, that is, of the paths and relationships between the constructs, as well as the measurement model, that is, the measurement of each construct was verified (Hair et al., 2016).

In the reflective analysis of the measurement model of this research, the convergent validity, the discriminant validity and the composite reliability of the constructs were evaluated. In relation to the measurement analysis of the second order constructs and of a reflexive-formative character, the two-stage technique was used, evaluating the existence of collinearity between the constructs and the importance and relevance of the formative indicators. And, after confirming that the measures of the constructs were valid and reliable, the results of the structural model were evaluated, determining whether the empirical data support the theory and confirm it, as well as the relationships between the constructs. For this, the following were evaluated: collinearity, the meaning of the path coefficients and the level of the coefficient of determination R^2 (Hair et al., 2016).

3.4 Data processing

To verify if the sample of this research is reliable and significant, extreme values were sought around the model, using the scores of the constructs generated by Smart-PLS after running the structural model. A bivariate technique was applied with the elaboration of bagplots in the R studio software, to identify the existence of outliers in the correlation between the constructs (Rousseeuw, Ruts & Tukey, 1999).

It was found that in the relationships between Satisfaction X Personal Resilience and Satisfaction X Academic Experience there are no extreme values in the relationships. In the relationship between Personal Resilience X Academic Experience, a possible outlier was identified, which was the case 73, however, its exclusion did not generate any significant benefit to the results of the proposed model, so it was decided to maintain it.

4. Results

When using the Structural Equation Modeling technique, before analyzing the structure of the model, it is necessary to analyze the measurement models that allow to verify the measurement of each construct (Hair et al., 2016). As this research has first and second order constructs, they were analyzed separately, and for this reason, the data are presented at different times.

Given the characteristic of the model, the approach of repetition of indicators for the evaluation of the hierarchical model, in which the indicators of the first order constructs are repeated in the second order construct, makes the model interpretation incorrect, considering

that the construct second order would have practically 100% of its variance explained by the first order constructs, leaving no variance to be explained by the independent constructs and generating close path coefficients (Sarstedt et al., 2019). For example, satisfaction, which is formed by satisfaction with the academic environment and personal satisfaction, would be composed of its indicators. This makes it not possible to interpret the results of the impact of resilience and experience in satisfaction, as this impact is totally generated by its first-order dimensions.

Therefore, it was decided to adopt the disjunct two-stage approach (Sarstedt et al., 2019). Initially, the model was run without the presence of second-order constructs, that is, personal resilience was directly linked to each of the constructs that form the academic experience (Personal, Interpersonal, Career, Study and Institutional) and Satisfaction (Satisfaction with the Academic Environment and Personal Satisfaction), as well as the dimensions of academic experience in the dimensions of satisfaction. This step served to evaluate the measurement of the first order constructs and to generate scores for the first order constructs for each respondent. In the second stage, the scores generated for the first order constructs were used as formative indicators for their respective second order constructs.

4.1 First order measurement models

In this research, the 1st order measurement models are all reflective, that is, the indicators reflect the latent variable and therefore must be evaluated through their internal reliability, their convergent validity and their discriminating validity (Hair et al., 2016). In this research, there are eight 1st order measurement models: the Personal Resilience construct, the five dimensions of the Academic Experience construct (Personal, Interpersonal, Career, Study and Institutional) and the two dimensions of the Satisfaction construct (Satisfaction with the Academic Environment and Satisfaction Folks).

The first step after running the model in the Smart-PLS software was to check the reliability and internal consistency of the constructs. According to Hair et al. (2016) Composite Reliability is used to verify the reliability of internal consistency according to the individual reliability of each indicator, considering the different external loads of the variables. It varies between 0 and 1 and higher values indicate higher levels of reliability. Values between 0.60 and 0.70 are acceptable in exploratory research. Values between 0.70 and 0.90 are considered satisfactory in more advanced stages of research, and values above

0.95 are not desirable, as they indicate that all variables of the construct are measuring the same phenomenon.

To measure the convergent validity, the external loads of the indicators are considered (recommended to be 0.708 or higher, but acceptable above 0.400), as well as the Average Extracted Variance (AVE) which is the sum of the squared loads, divided by the number of indicators (must be above 0.50), evaluating how much the indicators of a construct are positively related to each other, sharing a high proportion of variance (Hair et al., 2016).

Firstly, the "Personal Resilience" construct presented AVE = 0.453 (lower than stipulated), so we chose to exclude, one at a time, the indicators that presented the lowest factor loads and that, after exclusion, it was possible to perceive an improvement in stroke. After excluding the indicators RP03, RP07 and RP05, in that order, the AVE reached the stipulated value. The same was done for the construct "Academic Experience", where it was necessary to exclude some indicators. The "Personnel" dimension, at first, had a stroke = 0.483 and excluding the indicator VAP01 (which had the lowest load), the stroke was increased to 0.504. In the "Study" dimension, the indicator that had the lowest load (VAE09) was excluded and the stroke increased from 0.498 to 0.543. Finally, in the "Institutional" dimension, the VAINS03, VAINS06 and VAINS08 indicators were excluded and it was possible to identify an increase in the AVE from 0.389 to 0.537. In the "Satisfaction" construct, it was not necessary to exclude any indicator, as the factorial loads and the CVA presented values within the stipulated by Hair et al. (2016).

Table 1 shows the final relationship between the values of the factor loads and the CVA that indicate the convergent validity. In the Table it is also possible to note that all constructs in this research have good levels of Composite Reliability and Cronbrach's alpha, according to the values stipulated by Hair et al (2016).

.		Convergent validity		Reliability and internal consistency			
Latent	Indicador	Accetable	AVE Cronbach's alpha Composite reliability				
variable		> 0,70 (load > 0.40)	> 0,50	> 0,60 to 0,95	> 0,60 to 0,95		
	RP01	0,616					
	RP02	0,706					
	RP04	0,700	0,501				
Personal	RP06	0,754		0,833	0,875		
Resilience	RP08	0,635	.,	.,	.,		
	RP09	0,828					
	RP10	0,694					
	VAP02	0,500					
	VAP03	0,839					
	VAP04	0,860					
	VAP05	0,815		0,914			
	VAP06	0,751					
Academic	VAP07	0,708			0,928		
Experience -	VAP08	0,545	0,504				
Personal	VAP09	0,735					
	VAP10	0,627					
	VAP11	0,808					
	VAP12	0,686					
	VAP13	0,562					
	VAP14	0,680					
	VAI01	0,760		0,916			
	VAI02	0,716			0,929		
	VAI03	0,801					
	VAI04	0,853					
	VAI05	0,682					
Academic	VAI06	0,658	0,528				
Experience -	VAI07	0,465					
Interpersonal	VAI08	0,665					
	VAI09	0,765					
	VAI10	0,669					
	VAI11	0,792					
	VAI12	0,813					
	VAC01	0,768					
	VAC02	0,702		0,930			
	VAC03	0,892					
	VAC04	0,799					
A 1 ·	VAC05	0,820			0,940		
Academic	VAC06	0,797	0.571				
Experience - Career	VAC07	0,832	0,571				
Career	VAC08	0,771					
	VAC09	0,694					
	VAC10	0,588					
	VAC11	0,660					
	VAC12	0,692					
	VAE01	0,731					
	VAE02	0,672					
Academic	VAE03	0,777					
Experience -	VAE04	0,789	0,543	0,879	0,904		
Study	VAE05	0,667					
	VAE06	0,784					
	VAE07	0,806					

Table 1. Convergent validity and internal reliability.

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	VAE08	0,650				
	VAINS01	0,804				
Academic	VAINS02	0,856	0,537			
Experience - Institutional	VAINS04	0,774		0,773	0,850	
	VAINS05	0,658				
	VAINS07	0,524				
Satisfaction -	SAA01	0,759				
Satisfaction	SAA02	0,766				
with the	SAA03	0,778	0,571	0,751	0,842	
Academic Environment	SAA04	0,720				
	SP01	0,860				
Satisfaction - Personal Satisfaction	SP02	0,788	0,614	0.790	0,863	
	SP03	0,699		0,789		
	SP04	0,779				

Source: Research data.

Another analysis carried out in the measurement model was Discriminant Validity, which, in turn, suggests whether the construct is unique and captures phenomena that are distinct from others. The method used to evaluate the discriminant validity was the Fornell-Larcker criterion, which compares the square root of the AVE values with the correlation of the construct with the other constructs, and should present a higher value for the square root of the AVE. It was found that all the constructs have the square root of the stroke greater than the correction of the construct with the other constructs, as can be seen in Table 2.

Table 2. Discriminant validity.

Construct	Career	Study	Impersonal	Institutional	Personal	Personal Resilience	Personal satisfaction	Satisfaction with the Academic Environment
Career	0,756							
Study	0,377	0,737						
Impersonal	0,335	0,247	0,727					
Institutional	0,371	0,239	0,237	0,733				
Personal	0,407	0,447	0,348	0,250	0,710			
Personal Resilience	0,411	0,424	0,369	0,261	0,586	0,708		
Personal satisfaction	0,609	0,510	0,544	0,440	0,442	0,423	0,783	
Satisfaction with the Academic Environment	0,593	0,338	0,294	0,581	0,365	0,348	0,586	0,756

Source: Research data.

4.2 Second order measurement models

To validate second-order measurement models, the collinearity between the indicators and their significance and relevance in forming the construct were analyzed. In relation to the collinearity between the indicators, high correlations cannot occur. One measure to assess collinearity is the Variance Inflation Factor (VIF), where values greater than five indicate a potential problem, considering the removal of the corresponding indicator (Hair et al., 2016), as shown in Table 3.

2nd order	1st order construct	Collinearity	Relevance and significance of the indicators		
construct		VIF	Weight	p-value	
		< 5	-	<0,05	
	Personal	1,438	0,288	0,00	
	Interpersonal	1,217	0,289	0,00	
Academic Experience	Career	1,432	0,389	0,00	
-	Study	1,335	0,241	0,00	
	Institutional	1,196	0,249	0,00	
Satisfaction	Satisfaction with the Academic Environment	1,525	0,404	0,00	
	Personal satisfaction	1,525	0,708	0,00	

Table 3. Collinearity, relevance and significance of the paths.

Source: Research data.

According to Hair et al. (2016), to verify whether the training indicators truly contribute to the formation of the construct, the importance and relevance of the indicators should be assessed. To verify the significance of a formative indicator, its external weight should be checked, which should have p-values less than 0.05, verified through the bootstrap procedure, which is the creation of sub-samples within the data set. If the p value is greater than 0.05, the external load must be checked, which must have a value greater than 0.5 for the indicator to be considered important. If the indicator has a non-significant weight and an

external load below 0.5, the researcher must decide whether to maintain or exclude the indicator, depending on its theoretical relevance.

The collinearity, relevance and significance of the indicators of this research are shown in Table 3. It was noticed that all VIF values are less than five, indicating no collinearity between the constructs and p values of weights less than 0.05, confirming that 1st order constructs form 2nd order constructs. The weight indicates the relevance of each 1st order construct in the formation of the 2nd order, indicating that the Career construct is the most relevant in the formation of the Academic Experience construct and the Personal Satisfaction construct has greater relevance in the formation of the Satisfaction construct.

4.3 Structural model

According to Hair et al. (2016) after confirming that the measures of the constructs are valid and reliable through the analysis of the measurement models, one must then evaluate the results of the structural model, determining whether the empirical data support the theory and confirms it . The forecasting capabilities of the model and the relationships between the constructs should be examined. For this, the following were evaluated: collinearity, the meaning of the path coefficients and the level of the coefficient of determination R². The collinearity values of the structural model were 1.578 for both personal resilience and academic experience. As the VIF values are less than five, they indicate that there is no high correlation between the constructs.

The path coefficients represent the hypothetical relationships between the constructs and have values between -1 and +1. If a path coefficient has a value close to +1 it means that it represents strong positive relationships and the closer to 0, the weaker the relationships are. It is also necessary to observe the significance of these paths, checking if they are statistically different from zero. The significance and relevance of the path coefficients of the relationships in the model of this research are described in Table 4.

Paths	Original Sample (O)	p-value
Personal Resilience -> Satisfaction	-0,069	0,086
Personal Resilience -> Academic Experience	0,605	0,000
Academic Experience -> Satisfaction	0,847	0,000

Table 4. Significance and relevance of path coefficients.

Source: Research data.

Based on the results, it was found that personal resilience does not directly impact student satisfaction with the University, thus rejecting the research hypothesis H1 - "Student personal resilience positively impacts student satisfaction with the University", as it has value p above 0.05.

Hypotheses H2 - "The student's personal resilience positively impacts the student's academic experience" and H3 - "The academic experience positively impacts the student's satisfaction with the University", in turn, were accepted, as they had a p-value equal to zero. This means that the Personal Resilience construct positively impacts the Academic Experience construct and that the Academic Experience construct positively impacts the Satisfaction construct.

The Determination Coefficient (R^2) was also analyzed, which is a predictive measure of the model, representing the combined effects of exogenous (independent) variables on the endogenous (dependent) latent variable. The R^2 value ranges from 0 to 1, with higher levels indicating higher levels of predictive precision (Hair et al., 2017). The R^2 values were 0.652 for Satisfaction and 0.366 for Academic Experience.

These results indicate that the proposed research model was able to explain 65.20% of the variation of the Satisfaction construct and 36.63% of the variation of the Academic Experience construct. After verifying that the Personal Resilience construct does not directly impact the Satisfaction construct, a new research hypothesis was created to verify whether there is an indirect effect on this relationship, with the academic experience playing a mediating role. Therefore, we have the fourth hypothesis of this research: H4 - The academic experience plays a mediating role in the relationship between the student's personal resilience and his satisfaction with the University. Then, a mediation analysis was carried out to verify whether the Academic Experience construct plays a mediating role in the relationship

between the Personal Resilience and Satisfaction constructs, whose data can be seen in Table 5.

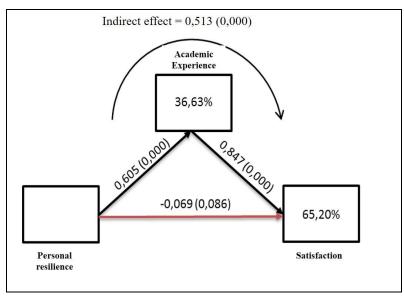
Effect	Path	Original sample (O)	p-value
Indirect	Personal resilience->Academic experience->Satisfaction	0,513	0,000
Direct	Personal Resilience-> Satisfaction	-0,069	0,086

Table 5. Mediation analysis.

Source: Research data.

The results demonstrate that in the direct effect between Personal Resilience and Satisfaction, the p-value is greater than 0.05, not being statistically significant. Already observing the indirect effect, with Personal Resilience impacting the Academic Experience, and this, in turn, impacting Satisfaction, the p value is equal to zero, it is possible to affirm that the relationship is statistically significant. Thus, it can be said that Hypothesis H4 was accepted.

Figure 1. Results of the proposed model.



Source: Research data.

The result implies a total mediation, that is, personal resilience only impacts satisfaction through academic experience. Therefore, increasing resilience improves the perception of academic experience, resulting in higher levels of satisfaction on the part of the

student. Thus, the result of the proposed research model, containing the path, significance and R^2 coefficients, is shown in Figure 1.

5. Final Considerations

The present study presented a structural equation model that allows a better understanding of the impact of personal resilience and academic experience on the satisfaction of students registered in student assistance at a Federal University. Specifically, it showed that the Personal Resilience construct positively impacts the Academic Experience construct. To achieve these objectives, theoretically three hypotheses were created. During the analysis of the results, another research hypothesis was created. The main result found was the confirmation that personal resilience positively impacts the student's academic experience and that this, in turn, positively impacts student satisfaction with the University. Furthermore, it was found that personal resilience does not directly impact student satisfaction with the University, but indirectly, through academic experience.

It was found, therefore, that the Academic Experience construct plays a mediating role in the relationship between the Personal Resilience and Satisfaction constructs. Thus, it is evident that to improve student satisfaction, the University must pay attention to both aspects of personal resilience and academic experience to provide better satisfaction with the academic experience for this population.

Based on the cycle (conceptual advances, empirical tests and new conceptual advances), this research contributes to the literature by expanding the current knowledge about the relationship between the constructs addressed (Colquitt & Zapata-Phelan, 2007).

In addition, the results have several practical implications, considering that it is evident the need to adopt measures to improve the resilience of students, as well as their academic experience to, only then, make them more satisfied. In this sense, to achieve academic satisfaction, improvement and quality of academic services should be aimed at guaranteeing student loyalty and good credibility with the whole community (Ramos et al, 2015; Suehrio & Andrade, 2018).

To promote a better academic experience, it is essential that the University exercise its scientific and social function by understanding the needs of its students, acting in the entire integration process, providing resources and providing positive experiences in order to guarantee academic success and, consequently, the satisfaction of this population (Porto & Soares, 2017).

The University must develop actions to help students adjust to university life, directing positive coping efforts so that students can develop resilience characteristics, such as guidance and counseling centers to identify problems and provide social support to them, seeking to facilitate issues personal, social, emotional and academic (Rahat & Ilhan, 2016).

As a limitation of this research, it can be mentioned that a sample of a specific group was used, which are students registered in student assistance. It would be a great contribution for future research to expand this population to all students at the University, thus being able to make a comparison between the two groups.

For future research it would also be interesting to look for new constructs that can further explain the academic experience and student satisfaction. And, considering that resilience proved to be important to directly impact academic experience and satisfaction indirectly, look for antecedents to it, that is, constructs that lead students to be more resilient.

To deepen the relationships between the studied constructs and better understand how to develop the student's resilience and improve his academic experience in order to make him more satisfied, it is suggested to use a qualitative approach as a complement to this research, in future research. It is recommended to seek other mediators and moderators for the proposed model that will help explain more and more student satisfaction.

Finally, it is suggested to verify if satisfaction with the University has a negative impact on the desire for dropout, that is, if more satisfied students have less desire to drop out of the course.

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