

<https://doi.org/10.23913/ride.v13i26.1385>

*Artículos científicos*

## **Bienestar psicológico en estudiantes universitarios de nuevo ingreso**

*Psychological Well-Being in New University Students*

*Bem-estar psicológico em novos universitários*

**Karen Aurora Vences Camacho**

Universidad Autónoma del Estado de México, Unidad Académica Profesional Tejupilco,  
México

[karenve1995@hotmail.com](mailto:karenve1995@hotmail.com)

<https://orcid.org/0000-0001-8370-8909>

**Josué Ociel Márquez Gómez**

Universidad Autónoma del Estado de México, Unidad Académica Profesional Tejupilco,  
México

[josuemar12@gmail.com](mailto:josuemar12@gmail.com)

<https://orcid.org/0000-0001-5940-0832>

**\*Daniel Cardoso Jiménez**

Universidad Autónoma del Estado de México, Unidad Académica Profesional Tejupilco,  
México

[dcardosoj@uaemex.mx](mailto:dcardosoj@uaemex.mx)

<https://orcid.org/0000-0002-1762-1511>

\*Autor correspondencia

## Resumen

Un nivel alto de bienestar psicológico impacta en la disminución del estrés, la ansiedad y la depresión y, por ende, en el aprendizaje e indicadores académicos (Seligman, 2011). El objetivo de esta investigación fue analizar el bienestar psicológico de estudiantes de primer año de las licenciaturas de Administración y Psicología campus Tejupilco de la Universidad Autónoma del Estado de México en el período 2020A. La población estudiada fue de 174 estudiantes de ambos sexos con edades que oscilaban entre los 17 a 19 años. La clasificación del bienestar psicológico se basó en la escala de Ryff (1989), adaptada por Díaz *et al.* (2006), cuya confiabilidad es de 0.741. La información se procesó con un *software* para las ciencias sociales; se elaboró la base de datos para calcular una estadística descriptiva de valores mínimos, máximos, percentiles y puntos de corte; posteriormente, se obtuvieron los valores recodificados de nivel bajo, moderado y alto, y finalmente se calcularon frecuencias y porcentajes del bienestar psicológico. En cuanto a la autoaceptación, relaciones positivas con los demás, autonomía, dominio del entorno y propósito de vida, 35.4 % de estudiantes se ubicaron en promedio en nivel bajo y 64.6 % moderado-alto. Referente al crecimiento personal, 43 % mostraron un nivel bajo y 57 % uno moderado-alto. Los estudiantes de primer año de las licenciaturas de Administración y Psicología presentan, en general, un nivel bajo de bienestar psicológico, por lo que fue necesario dar atención a través de la tutoría académica, con conferencias, cursos y talleres para mejorar esta situación y por ende impactar favorablemente en los indicadores académicos de reprobación, rezago, deserción y retención durante el primer semestre.

**Palabras clave:** administración, bienestar psicológico, universitarios, primer año, psicología.

## Abstract

A high level of psychological well-being has an impact on the reduction of stress, anxiety and depression and, therefore, on learning and academic indicators (Seligman, 2011). The objective of this research was to analyze the psychological well-being of first-year students of the bachelor's degrees of Administration and Psychology, Tejupilco campus, of the Universidad Autónoma del Estado de México in the period 2020A. The population studied was 174 students of both sexes with ages ranging from 17 to 19 years old. The classification of psychological well-being was based on Ryff's scale (1989), adapted by Díaz *et al.* (2006),

whose reliability is 0.741. The information was processed with software for the social sciences; a database was created to calculate descriptive statistics of minimum, maximum, percentiles and cut-off points; subsequently, recoded values of low, moderate and high levels were obtained, and finally, frequencies and percentages of psychological well-being were calculated. Regarding self-acceptance, positive relationships with others, autonomy, mastery of the environment and life purpose, 35.4 % of students were located on average at a low level and 64.6 % at a moderate-high level. Regarding personal growth, 43% showed a low level and 57% a moderate-high level. The first-year students of the Administration and Psychology bachelor's degree programs present, in general, a low level of psychological well-being, for which reason it was necessary to provide attention through academic tutoring, with conferences, courses and workshops to improve this situation and therefore have a favorable impact on the academic indicators of failure, lag, dropout and retention during the first semester.

**Keywords:** psychological well-being, students, first year, administration, psychology.

## Resumo

Um elevado nível de bem-estar psicológico tem impacto na redução do stress, ansiedade e depressão e, por conseguinte, na aprendizagem e nos indicadores académicos (Seligman, 2011). O objetivo desta pesquisa foi analisar o bem-estar psicológico dos alunos do primeiro ano dos cursos de Administração e Psicologia, campus Tejupilco da Universidade Autônoma do Estado do México no período 2020A. A população estudada foi de 174 alunos de ambos os sexos com idade variando de 17 a 19 anos. A classificação do bem-estar psicológico baseou-se na escala de Ryff (1989), adaptada por Díaz et al. (2006), cuja confiabilidade é de 0,741. A informação foi processada com software para as ciências sociais; o banco de dados foi elaborado para calcular uma estatística descritiva de valores mínimos, máximos, percentuais e pontos de corte; posteriormente, obtiveram-se os valores recodificados de nível baixo, moderado e alto e, por fim, calcularam-se frequências e percentagens de bem-estar psicológico. Em relação à autoaceitação, relacionamento positivo com os outros, autonomia, domínio do meio ambiente e propósito de vida, 35,4% dos alunos situaram-se em média em nível baixo e 64,6% moderado-alto. Em relação ao crescimento pessoal, 43% apresentaram nível baixo e 57% moderado-alto. Os alunos do primeiro ano dos cursos de Administração e Psicologia apresentam, em geral, um baixo nível de bem-estar psicológico, razão pela qual

foi necessário dar atenção através de tutoria acadêmica, com conferências, cursos e workshops para melhorar esta situação e, portanto, , Portanto, tem um impacto favorável nos indicadores acadêmicos de reprovação, defasagem, deserção e retenção durante o primeiro semestre.

**Palavras-chave:** administração, bem-estar psicológico, universitários, primeiro ano, psicologia.

**Fecha Recepción:** Marzo 2022

**Fecha Aceptación:** Diciembre 2022

---

## Introduction

The study of well-being is very old. From the time of Aristotle and Plato to this day, people continue to talk about the path to happiness. In the last decades of the 20th century, however, it acquired new strength (Dinner, 2000, cited in Ballesteros, Medina, and Caycedo, 2006; Keyes, Shmotkin, and Ryff, 2002). These new trends in psychological well-being bring to the table a broader vision of mental health resources in contrast to traditional psychological approaches, which emphasize psychology and ignore health and its effects on well-being (Ryff & Keyes, 1995).

In the field of psychology, psychological well-being is often confused with terms such as quality of life or mental health; however, it is a concept more related to the assessment that an individual makes of their own life, including work, family or partner (Seligman, 2008).

In 1988, as a result of Seligman's initiative, when he was president of the American Psychological Association (APA), a new subdiscipline known as positive psychology arose, to which the treatise on happiness was awarded as its object. of people (Ryff and Marshall, 1999, cited in Oblitas, 2008).

Positive psychology scientifically studies the foundations of happiness and well-being, focusing on a person's strengths, abilities, and qualities, such as optimism, motivation, joy, among other aspects. The objective of positive psychology is to contribute to the development of a healthy, full and conscious life, thus preventing certain mental health pathologies (Ryff & Singer, 2001; Seligman, 2011). The idea presented by positive psychology refers to scientific study and defines the use of concepts such as happiness (Keyes *et al.*, 2002).

However, over the years, new needs and expectations of human beings have been generated, which must be met by specialists. The well-being treatise was born in the 1960s hand in hand with two great traditions: the hedonic, which symbolizes the study of subjective well-being, and the eudaimonic tradition, which focuses on psychological well-being (Keyes et al., 2002). Indeed, the scientific study of happiness was reinforced by two philosophical traditions, the hedonistic and the eudaimonic (Jerez and Oyarzo, 2015). From the hedonic tradition, well-being is associated with joy and pleasure (Moreta, Gabior and Barrera, 2017); and the eudaimonic tradition corresponds to the improvement and assessment that subjects make in aspects of their lives (Massone and Urquijo, 2014). The person performs a recognition of the scenarios that they have experienced in order to achieve a complete account of their actions as a person: social, personal relationships and individual aptitudes raised by the events they have faced and the emotional experience derived from it. : Satisfaction has to do with the degree to which a person evaluates the entire quality of their life in a positive way. In other words, how much a person likes the life he leads or has led (Ballesteros et al., 2006; Veenhoven, 1994, cited in Blanco and Díaz, 2005). Hence, it is important to approach well-being from a prevention approach, to avoid fallen states that lead subjects to have to deal with a disease that enslaves them, or that they live looking for strategies that take away their peace of mind to focus on finding a life. healthy (Fierro, 1996).

In his study, García (2014) points out, following the World Health Organization (WHO), that health inevitably includes not only physical and social health, but also mental health. And he defines mental health as a state of well-being in which the subject is aware of his abilities, can cope with normal stress, and work productively and efficiently in society.

On the other hand, Oblitas (2008) argues that when individuals talk about health, they refer to physical aspects and occasionally to psychological and behavioral ones. Currently, social, economic, cultural and spiritual aspects must be considered; There is plenty of evidence that health is profoundly influenced by behaviors, thoughts, and social relationships.

Mental health is multidimensional and is defined as personal skills and development based on positive behavior indicators. Psychological well-being as an analytical criterion is understood as the result of a global assessment of emotional and cognitive factors, and the psychological part is understood as the person one wants to be. Taking into account the above, the evaluation of mental health in the university environment is considered important because during their studies students encounter many situations that affect university life,

such as not having enough money to pay for the studies. Studies on psychological well-being assess the degree to which students feel satisfied in a matter of values and not so much the frequency of pleasurable activities (Ryff & Keyes, 1995).

According to Díaz (2001), psychological well-being is defined as an assessment that people make of their life and includes a cognitive dimension, which refers to life satisfaction, general or specific aspects of the domain; Another aspect is emotional, the frequency and intensity of positive and negative emotions. Likewise, Viniegras (2005, cited by Oblitas, 2008) defines well-being as a state of physical and mental functioning of the human being, that is, it is experienced by him, felt and coexisted. For his part, Rojas (2000) defines psychological well-being as a happy state of mind, a feeling of stability that often accompanies the thought that life is rewarding, meaningful and worth living. In the same way, Cuadra and Florenzano (2003) mention that psychological well-being is not just a happy life, but the process of having pleasant and unpleasant experiences, a life that is not afraid of pain, but rather challenges it and gives it a constructive sense, capable of transforming pain and contradiction into something beautiful and worth living.

Ryff and Keyes (1995) express that psychological well-being is presented as a multidimensional construct, a complex concept that has been used in an imprecise way in relation to other topics. Psychological well-being, they specify, is an intrinsic appreciation, state or feeling. For Ryff and Keyes (1995), it is based on the full realization of psychological potential. On the other hand, Carol Ryff (1989a) refers to psychological well-being as the effort of the human being to increase her life potential, which acquires meaning and significance with the fulfillment of objectives or goals in life; The central task of women and men in their lives is to examine and apply their capacities, their commitment is to reveal the meaning of their existence, even in the face of hostile environments.

The happiness tradition is strongly reinforced in Maslow's motivation theory or in the collected works of Rogers. Both authors, centers of psychological well-being with a focus on the development of skills and personal growth, do not consider that the success of wishes offers lasting well-being, nor that every wish fulfilled translates into pleasure (Ardila, 2003; Ryan and Deci , 2006).

The most accepted theoretical model of psychological well-being is Carol Ryff's multidimensional model, which sees it as a commitment to personal growth, where life's challenges are involved, as well as emotions and positive states, which are associated with healthy effects. and promoters of personal development (Seligman, 2008). Furthermore, Ryff

(1988) repeats the idea that happiness is a state absent of unpleasant or negative emotions and proposes a multidimensional model with six dimensions: self-concept, autonomy, mastery of the environment, positive relationships with others, purpose in life and personal growth, independently assessed. Next, she details each of them.

- Self-conception: it is one of the basic criteria of happiness. People strive to feel good about themselves, even aware of their own limitations, they present a positive attitude towards themselves, which is fundamental to working with a positive mindset (Keyes et al, 2002). Women or men with a low level of self-acceptance do not conceive of themselves as proud, they do not agree with what happened in their past life, they consider themselves insecure and insecure in some personal roles (Ryff, 1989a).
- Autonomy: it is self-determination, independence and behavior regulation. Subjects with a high level of autonomy are able to resist social pressures and self-regulate their actions (Ryff, 1989a). Each one is autonomous, that is, they are free to decide who they want to be and to fight for what they like or want in life to maintain their individuality in different social contexts, all people must defend their beliefs and maintain independence and individual authority (Ryff & Keyes, 1995).
- Mastery of the environment: it is the ability to choose or generate favorable environments (Ryff, 1989a). Individuals with a high mastery of the environment have an intervention in the world and consider themselves competent to influence the context in which they live and coexist (Ryff and Singer, 2002, cited in Díaz et al., 2006). In addition, they are respectful people with the environment, they do not have difficulties to face the events of their daily life and they can change what surrounds them to satisfy their needs (Castro, 2002).
- Positive relationships with others: it is the ability to maintain relationships with others based on mutual trust and empathy. Self-aware people are able to feel love from others, give love, strengthen friendships, and identify more with others. Conversely, people who do not have positive relationships with others have few close and trusting relationships, have difficulty opening up and trusting others, feel isolated and frustrated. (Ryff, 1989a).

- Purpose in life: all human beings must have goals and projects for their lives to have meaning (Ryff, 1989a). Stressful life events can also cause positive psychological changes, therefore it is necessary to find meaning in these experiences, even in situations such as those experienced in concentration camps; Human beings need to find meaning in their lives in order to overcome and be happy. People with few purposes in life have lost meaning in their lives, have few goals, and find no meaning in what they have experienced (Ryff & Singer, 2001). Stressful life events are central; when they happen people experience some unpleasant situations. On many occasions, they need to find meaning in life and achieve positive psychological changes (Frankl, 2001). People who live without purpose lose their meaning and direction in life (Ryff, 1989a).
- Personal growth: all of us must work to reach our potential, grow personally and reach our maximum potential (Keyes et al., 2002, cited in Díaz et al. 2006). People with a high rate of personal growth have a sense of steady progress, believe they have the potential to give even more, are open to new experiences, see their behavior improve over time, and are committed to increasing their self-awareness and performance (Ryff, 1989). People with low levels of personal development feel that they fall behind in their personal level, they fail to grow over time, they are seen as annoying, disconnected from life and considered useless and fruitless (Ryff, 1989a).

From the psychological and social perspective, well-being not only consists in the absence of symptoms or positive emotions, but rather that the person values himself and manages to have positive relationships in the space where he lives and lives (Ramírez, Guillén, Machargo and Luján, 2008). In this sense, universities should foster an environment of opportunities for health promotion in their university community (Tsouros, Dowding, Thompson, & Dooris, 1998). Tsouros (2000) mentions that there is much that universities can do to promote and protect the health of students and university teams; create healthy living, learning and working conditions; protect the environment, promote sustainable human development and promote health in university teaching and research (Tsouros et al., 1998; Tsouros, 2000).

The concern of universities is to offer quality academic training, for which they must consider the variables involved in the teaching-learning process. Starting school is one of the

most dramatic milestones in the life of any student (Reig, Cabrero, Ferrer, & Richart, 2001). When addressing Erikson's theory of psychosocial development, Bordignon (2005) refers to a stage called intimacy and role confusion, which occurs when the student is becoming more independent. At this stage, students examine possibilities and initiate their identity as a result of those inquiries (Bordignon, 2005). For students entering college, the first year is an adjustment process, where academic support is essential for the transition from high school to college (Smith & Renk, 2007).

Based on a survey carried out in Argentina, Cornejo and Lucero (2005) reported that the main concerns of students were related to personal aspects and adaptation to the new student life. As Ryff (1989a) pointed out, these contexts collect information about self-acceptance, positive relationships with others, self-control, and personal growth. In the same study, but in terms of knowledge, science students scored higher in psychological well-being. However, Bowman (2010) found that a group of Hispanic students recently admitted to college had higher levels of psychological well-being than non-Hispanic white students on four of the six dimensions. In addition, factors associated with progression toward optimal psychological well-being were found: being a woman, being Latino or Latina, and having ambitious academic goals to get into college. On the other hand, Smith and Zhang (2009) found that the components of a successful college adjustment in the first year include parental support, good study habits, academic preparation, counseling classes, student assessment, and support networks. Social. However, some obstacles to the transition from high school to college include lack of support from faculty, perception of the issue, inadequate recruitment, support from school staff, and the socioeconomic status of students from rural areas (Gianakos, 2002; Marsico and Gage, 2009). As revealed by Hudd et al. (2000), it is important that students understand and use the social support network and personal care services provided by the university to make progressive changes in their university life and avoid dissatisfaction during academic training. (Simons, Aysan, Thompson, Hamarat y Steele, 2002).

Likewise, Yorgason, Linville, and Zitman (2008) conducted a survey at a university in the eastern United States to investigate the relationship between their knowledge and use of psychological well-being services; 266 university students responded to the online questionnaire. Yorgason et al. (2008) found that students with mental disorders know and use school services; that the aspects related to the lack of knowledge are: living off campus, being a man and studying for only a few years, and that being a woman and studying for

several years is a predictor of greater use of services. On the other hand, Reynolds and Chris (2008) emphasize the fact of giving attention to students who demand psychological support through academic tutoring, since it is part of the mission of university centers, in addition to the fact that attending to this aspect has a favorable impact on students' academic indicators of the students. Along the same lines, Vázquez, Hervás, Rahona and Gómez (2009) report that well-being promotes health in various ways, in short, it directly strengthens a person's immune system and increases their ability to face adverse situations and increases behavior healthy.

People with high levels of psychological well-being are more likely to face and deal with situations and challenges in their daily lives, the fact that, despite problems, they can still experience joy in life, drives them to build better relationships, which that helps them adjust at work and with the people they live with. The life of these people becomes more active and interesting, they experience a balance that gives them the opportunity to enjoy life, help and contribute to the well-being of their peers. García (2013) reports that mature people scored significantly more psychological well-being than young people, the same behavior was better in women than in men. Lastly, Barrantes and Ureña (2015) registered high levels of psychological well-being in personal growth and purpose in life, and low levels in autonomy and mastery of the environment. And Rosa-Rodríguez, Negrón, Maldonado, Quiñones and Toledo (2015) reported low to moderate correlations in psychological well-being, in this case women scored higher than men.

The objective of this research was to analyze the psychological well-being of new students of the degrees in Administration and Psychology at the Tejupilco Professional Academic Unit of the Autonomous University of the State of Mexico in the 2020A period. Investigating the psychological well-being of new students arises from observing little social relationship between classmates and academic space, as well as uncertainty and mistrust in the context in which they live, since it is their first experience away from home. Another influencing factor is their origin and socioeconomic status, since 60% of new students come from rural communities with a low economic level. From the perspective of their teachers, this leads them to display inferior behavior in relation to their classmates of medium to high socioeconomic status, observing little participation in classes and teamwork on their part. These behaviors are due to the context where they live and coexist, as well as the academic training they received in their upper secondary level studies: teachers, in some cases, do not have the ideal profile to teach a certain subject, but due to a lack of teaching staff they

commission them to do so, which directly impacts the academic training of the students, and therefore, the uncertainty in their university studies.

It is worth mentioning that an analysis of the academic performance of the four most recent generations was carried out and it was detected that students with common characteristics obtained grades in their first semester of seven points and a failure rate of 36% on average.

All this was the reason for carrying out the present study, in order to analyze the psychological well-being of new students of the degrees in Administration and Psychology of the already specified unit, and have a reference to improve academic indicators such as failure, lag, desertion. and graduate with the support of the faculty and academic tutors.

## Materials and methods

This is a qualitative research, with a descriptive, cross-sectional, non-experimental and intentional study. The population was made up of 174 first-year university students of the degrees in Administration and Psychology, from 17 to 19 years of age, from rural communities, municipal capitals and cities, of low to medium socioeconomic level. Students whose socioeconomic level was high were excluded from the research (information provided by the Department of School Control of the Unidad Académica Profesional Tejupilco).

The application of the instrument was carried out under natural conditions, without manipulating the study variable. To classify the degree of psychological well-being, the Ryff scale (1989b) and Díaz et al. (2006) for the Hispanic population with 39 Likert-type items, where 1 = Totally disagree, 2 = Disagree, 3 = Almost disagree, 4 = Almost agree, 5 = Agree and 6 = Totally agree. The scale measures the dimensions of Self-acceptance, Positive relationships with others, Autonomy, Mastery of the environment, Purpose in life and Personal growth. The scale has a Cronbach's alpha of 0.741.

The collected information was processed using software for the social sciences. To categorize the levels of psychological well-being, a database was first organized by student, item and dimension taking into account the items that comprised it (for Self-acceptance it includes items 1, 7, 13, 19, 25, 31; Positive relationships: 2, 8, 14, 20, 26 and 32; Autonomy: 3, 4, 9, 10, 15, 21, 27 and 33; Mastery of the environment: 5, 11, 16, 22, 28 and 39; Purpose in life : 6, 12, 17, 18, 23 and 24, and Personal growth: 24, 30, 34, 35, 36, 37 and 38). Then the conversion of the item was inverted, that is, when its answer was 1, the value of 6 was

placed, 2 = 5, 3 = 4, 4 = 3, 5 = 2 and 6 = 1. Next, the values were inverted. items 2, 4, 5, 8, 9, 13, 15, 20, 22, 25, 26, 27, 29, 30, 33, 34 and 36, according to the corresponding dimension.

Then, the information was processed using the SPSS program; the descriptive statistics of each dimension were calculated in their values: minimum, maximum and percentiles; Immediately, the mentioned values were recoded using value one for the lowest values, that is, the minimum value with its respective low percentile, value two for the intermediate values, with its intermediate percentile, and finally value three with maximum values and your top percentile. With these values, the cut-off points or level of low, moderate, and high psychological well-being were established, with scores or ranges of 19 to 27.9, 28 to 36.9, and 37 to 45, respectively. Finally, frequencies, percentages and levels of psychological well-being presented by the students in each dimension were calculated.

## Results

Psychological well-being in students is accepted as the effort to increase their life potential, to have a sense and meaning of improvement, to achieve their objectives or goals set in a certain time.

The population studied corresponds to 122 women (70%) and 52 men (30%), of which 104 students come from rural places (60%), 52 students from a municipal seat (30%) and 18 students from a city ( 10%), with low to medium socioeconomic level.

It is worth mentioning that the Tejupilco Professional Academic Unit is located in the southern region of the State of Mexico, considered highly marginalized or extremely poor by the authorities of the Government of the State of Mexico. Families are engaged in agricultural activities, so their economy is family or backyard with occasional economic income.

From the information obtained, ordered, processed and analyzed, the following results were obtained, which are described in Table 1.

**Table 1.** Frequencies and percentages of the level of psychological well-being presented by new students

Dimensión / nivel de bienestar psicológico	Bajo		Moderado		Alto	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Autoaceptación	61	35	64	37	49	28
Relaciones positivas con los demás	59	34	70	40	45	26
Autonomía	59	34	63	36	52	30
Dominio del entorno	64	37	66	38	44	25
Propósito para la vida	64	37	71	41	39	22
Crecimiento personal	75	43	52	30	47	27

Source: self made

Mostly, the participants registered a moderate level of psychological well-being in the dimensions of Self-acceptance, Positive relationships with others, Autonomy, Mastery of the environment and Purpose for life, although, next, the low level appears in the same six dimensions, more noticeably in personal growth; Finally, the high level registers the lowest percentages of psychological well-being in students.

The dimensions of Self-conception, Positive relationships with others, Autonomy, Mastery of the environment, Purpose for life and Personal growth have a direct impact on more than 110 students, adding the levels of moderate and high, since students make an effort to feel good with themselves, they are aware of their own limitations, they have a positive attitude, good relationships, they are loving, friendly and help each other among peers; they are independent, they fight for what they want in life, they resist social pressures and they regulate their conduct; they themselves generate favorable environments for the fulfillment of their goals or objectives, finally the students work to reach their potential and grow as people. It is worth mentioning that, of the 110 students, 15 were 19 years old, who registered a high level of psychological well-being.

The data shows that the older the students, the more clearly their academic goal is. His enthusiasm was observed in the development of his academic activities and, therefore, in his school retention. This behavior was observed in students with moderate and high levels of psychological well-being. On the other hand, 64 students presented a low level and very defined behaviors: they do not feel proud of themselves, they do not agree with what happened in their past life, they consider themselves insecure academically, they do not resist

social pressures, they do not have clear who they want to be, they are not autonomous, they depend on other people to make decisions, they show no initiative to change their environment where they live and live, they have few goals set in their lives, they feel personal backwardness and an attitude of discomfort at all times.

The dimension that presents the lowest levels of psychological well-being is Personal growth, with 75 students, who state that they feel inferior to their peers in both academic and personal development aspects, fail to grow over time, are always upset and They don't concentrate on their classes, they are always defensive in classes and especially against teamwork.

One strategy that was implemented with this group of students was personalized academic tutoring, through which important aspects of these dimensions were worked on, among which self-esteem, motivation, confidence, independence, behavior regulation, decision-making, empathy, relationships social, life project and growing as a person, all these topics were shared by their academic tutors, together with disciplinary advice, with which it was possible to improve academic retention by 87%, with a general average of these students of 7.6 and failure rate of 13%. It is worth mentioning that 14 students showed up for classes for only one week and withdrew on the grounds that they were accepted at another educational institution with a weekend offer; these results are encouraging to continue working with new students and during their academic career, all thanks to teamwork (students, teachers who taught them, academic tutors, university authorities and research team).

The exposed results are influenced by the student gender, socioeconomic level of the family, place of origin, relatives, friends, neighbors, society, school, teachers, directors and administrative personnel, among others.

## Discussion

The results of this study describe the psychological well-being of freshmen university students of the Administration and Psychology degrees of the Tejupilco Professional Academic Unit. Among the findings, the students showed degrees of psychological well-being in the following order: moderate, low and high in the six dimensions.

Psychological well-being is the experience through which a student consciously evaluates the benefits achieved at moments in their academic life by comparing them with the established goals. This experience is determined by affective states.

The findings of this research are influenced by the family, the context where they live and live together, socioeconomic level, friends, neighbors, teachers, administrative staff, society in general and, of course, by their academic performance at the upper secondary level and the emotional part. belonging to the Autonomous University of the State of Mexico, which has a history of 195 years and social prestige both nationally and internationally.

The results of this research are similar to those reported by Cruz, Martínez, Lorenzo and Fernández (2020) in their research on psychological well-being in students at the University of Havana, where the best level of psychological well-being was moderate, with 35.25%. . Likewise, Carranza, Hernández and Alhuay-Quispe (2017), within the results of their research on psychological well-being and academic performance in undergraduate psychology students, indicate that the highest percentages were obtained at the moderate level in the Self-acceptance dimensions. , Autonomy, Mastery of the environment, Personal growth and Purpose in life, with values of 43.6%, 54.0%, 68.3%, 42.1% and 46.5%. respectively.

The knowledge generated in each investigation reaffirms that if students present moderate to high levels of psychological well-being, this positively impacts their academic retention and academic performance, since they present a positive behavior, since students strive to feel good about themselves, are aware of their own limitations, have a positive attitude and good relationships, are loving, friendly and help each other among peers, are independent, fight for what they want in life, resist social pressures and regulate their behavior, they themselves create favorable environments to achieve your goals or objectives. Finally, students work to reach their maximum potential and grow as people with well-defined goals as students.

The foregoing is significant in relation to the positive evaluations that each student makes of her life, since, when the indicated behavior exists, a productive environment is created in which they develop academic activities, social relationships or extracurricular.

Carranza et al. (2017) coincide with the above, since they mention that if students present a positive assessment in their life, this impacts their academic retention and their objectives or goals that were set when they entered the university.

Likewise, Saura (1995) agrees when referring to people who value themselves positively, show social affection, are more persistent, competitive, and are more motivated to achieve their goals, as well as being able to overcome difficult situations.

The Self-acceptance dimension was the way students reviewed themselves and predicted their learning and impact on their academic retention. In this context, Casullo (2002) shows that evaluating their limitations, failures and acceptance gives a sense of satisfaction with personal characteristics, which makes it easier for students to examine their abilities in learning tasks. A high degree of self-acceptance heralds high academic retention, and therefore students who accept themselves in academia benefit more in life. (Arancibia, Malters y Álvarez 1990).

Likewise, Veliz and Urquijo (2012) found that as one ages in the university, more positive perceptions of the student's personal and academic competencies tend to be exhibited.

The Positive Relationships dimension indicated that students developed socially and their role in group work showed consistent learning outcomes. According to this reasoning, positive relationships and camaraderie reduce stress and improve psychological well-being, leading students to work as a team to learn and meet new people. Thus, positive relationships associated with social skills are beneficial for their academic retention. The previous vision is consistent with the opinion of Acosta, Tobón and Loya (2015), who show that this relationship and commitment facilitates the integral formation and improvement of human capacities. Of course, without positive social relationships, teamwork can generate problems that affect the academic indicators of the members, because in integral development not all contribute knowledge, experiences and are not protagonists of academic development and achievement (Mondejar, Vargas and Mondejar, 2007).

The Autonomy dimension indicated that students, just as they are, are the benchmark for achieving their goals, as demonstrated by the academic retention results. Of course, students with a sense of security and self-control anticipate consistent academic retention, problem-solving abilities, and interpersonal communication skills. According to research (PISA, 2011, cited in Bois, 2013), there is a direct relationship between the degree of autonomy and academic indicators, which demonstrates the importance of autonomy in the academic field.

For the Mastery of the environment dimension, the participants showed the ability to create an environment that was adapted to the individual needs of each student. Alegre (2014)

states that if students have the necessary tools and methods to study and learn, they will have a positive impact on their studies. There is no doubt that students in their academic training acquire, understand and develop social skills that allow them to work well with themselves and with other students in their own environment. (Gallego, 2000).

In the Personal Growth dimension, students established a positive benchmark by being able to stay in their studies during the first semester, although 47% of students scored low. A strategy that helped in the rates of failure, desertion and academic retention was the teamwork that was carried out between the academic tutors, teachers who teach them, disciplinary advisories and courses-workshops related to the six dimensions. The students who developed on an individual level were able to integrate their skills into the final goal. The aforementioned coincides with Colmenares and Delgado (2008), who point out that, together with scientific development, students acquire the ability to solve problems in difficult learning environments in their own personal and social realities and create an integral structure that benefits their academic goal.

The purpose in life dimension revealed to us the goals that the students set and were able to achieve. In short, the student's life project is the achievement of their academic goals, which is the basis for ensuring the student's academic results once their academic training is complete. In educational practice, students need to be clear about what they want to achieve in life, because that determines the achievement of learning goals and activities.

## Conclusions

Based on the information collected, processed and interpreted on site, the following conclusions were drawn:

Psychological well-being is a personal experience of the student, which is the result of a positive conscious process that evaluates results at different moments of their student life and compares them with the aspirations and goals that the student set for himself in this first semester.

More than a third of the first-year students of the degrees in Administration and Psychology of the Tejupilco Professional Academic Unit showed a low level of psychological well-being. In the Personal Growth dimension, students presented the lowest level of psychological well-being.

In the six dimensions evaluated, two thirds of the students scored at a moderate-high level, which directly impacted the indicators of failure, lag, and academic retention.

With the teamwork of the academic tutors, teachers who taught them classes, disciplinary counseling, and the teaching of courses-workshops related to the six dimensions that the instrument evaluated, it was possible to improve the grade point average from 7.0 to 7.6, the index of failure from 36% to only 13% and finally the retention rate, which was 87%.

### **Contributions to future lines of Research**

It is recommended to deepen correlational studies on psychological well-being in students according to their social origin (city, urban or rural), gender, age, type of high school that they graduated from, academic performance, type of family, economic levels, schooling and environment. employment of their parents. These studies can be complemented with longitudinal and correlational research that shows the progress of psychological well-being in the dimensions evaluated by the instrument, since the nature of this research was descriptive.

## References

- Acosta, H. P., Tobón, S. y Loya, J. L. (2015). Docencia socioformativa y desempeño académico en la educación superior. *Paradigma*, 36(1), 42-55. Recuperado de <https://revistacientifica.uaa.edu.py/index.php/riics/article/view/416>.
- Alegre, A. (2014). Autoeficacia académica, autorregulación del aprendizaje y rendimiento académico en estudiantes universitarios iniciales. *Propósitos y Representaciones*, 2(1), 79-120. Recuperado de <https://dx.doi.org/10.20511/pyr2014.v2n1.54>.
- Arancibia, V., Malters, S. y Álvarez, M. (1996). Test de autoconcepto académico. Universidad Católica de Chile.
- Ardila, R. (2003). Calidad de vida: una visión integradora. *Revista Latinoamericana de Psicología*, 35(2), 161-164. Recuperado de <https://www.redalyc.org/articulo.oa?id=80535203>.
- Ballesteros, B., Medina, A. y Caycedo, C. (2006). El bienestar psicológico definido por asistentes a un servicio de consulta psicológica en Bogotá, Colombia. *Universitas Psychologica*, 5(2), 239-258. Recuperado de
- Barra, E. (2010). Bienestar psicológico y orientación de rol sexual en estudiantes universitarios. *Terapia Psicológica*, 28(1), 119-125. <https://dx.doi.org/10.4067/S0718-48082010000100011>
- Barrantes, K. y Ureña, P. (2015). Bienestar psicológico y bienestar subjetivo en estudiantes universitarios costarricenses. *Revista Intercontinental de Psicología y Educación*, 17(1), 101-123. Recuperado de <https://www.redalyc.org/articulo.oa?id=80242935006>.
- Blanco, A. y Díaz, D. (2005). El bienestar social: su concepto y medición. *Psicothema*, 17(4), 582-589. Recuperado de <https://dialnet.unirioja.es/servlet/articulo?codigo=1313984>.
- Bois, F. (04 de diciembre del 2013). Una propuesta hípica. El Comercio. <https://elcomercio.pe/politica/opinion/editorial-propuesta-hipica-noticia-1668333>
- Bordignon, N. (2005). El desarrollo psicosocial de Eric Erikson. El diagrama epigenético del adulto. *Revista Lasallista de Investigación*, 2(2), 50-63. Recuperado de <https://www.redalyc.org/articulo.oa?id=69520210>.
- Bowman, N. A. (2010). The Development of Psychological Well-Being Among First-Year College Students. *Journal of College Student Development*, 51(2), 180-200. Retrieved from.

- Carr, A. (2004). *Psicología positiva, la ciencia de la felicidad*. Paidós.
- Carranza, R. F., Hernández, R. M. y Alhuay-Quispe, J. 2017. Bienestar psicológico y rendimiento académico en estudiantes de pregrado de psicología. *Revista Internacional de Investigación en Ciencias Sociales*, 13(2), 133-146. Recuperado de <https://doi.org/10.18004/riics.2017.diciembre.133-146>.
- Castro, S. A. (2002). Investigaciones argentinas sobre el bienestar psicológico. En Casullo, M. (comp.<sup>a</sup>), *Evaluación del bienestar psicológico en Iberoamérica* (pp. 31-54). Barcelona, España: Paidós.
- Casullo, M. M. (2002). *Evaluación del bienestar psicológico en Iberoamérica*. Barcelona, España: Paidós.
- Colmenares, M. y Delgado, F. (2008). La correlación entre rendimiento académico y motivación de logro: elementos para la discusión y reflexión. *REDHECS. Revista Electrónica de Humanidades, Educación y Comunicación Social*, 3(5), 179-191. Recuperado de <https://dialnet.unirioja.es/servlet/autor?codigo=2312865>.
- Cornejo, M. y Lucero, M. C. (2005). Preocupaciones vitales en estudiantes universitarios relacionado con bienestar psicológico y modalidades de afrontamiento. *Fundamentos en Humanidades*. 2(12), 143-153. <https://www.redalyc.org/articulo.oa?id=18412608>
- Cruz, M. M., Martínez, L., Lorenzo, A. y Fernández, D. 2020. Bienestar psicológico en estudiantes de la Universidad de La Habana. *Estudios de Psicología*, 15(2), 69-93. Recuperado de <https://doi.org/10.15517/wl.v15I2.44086>.
- Cuadra, H. y Florenzano, R. (2003). El bienestar subjetivo: hacia una psicología positiva. *Revista de Psicología*, 12(1), 83-96. Recuperado de <https://doi.org/10.5354/0719-0581.2003.17380>.
- Díaz, L. G. (2001). El bienestar subjetivo. Actualidad y perspectiva. *Revista Cubana de Medicina General Integral*, 17(6), 572-579. Recuperado de [https://scielo.sld.cu/scielo.php?script=sci\\_arttext&pid=S0864-21252001000600011&lng=es&tlng=es](https://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-21252001000600011&lng=es&tlng=es).
- Díaz, D., Rodríguez, R., Blanco, A., Moreno, B., Gallardo, I., Valle, C. y Dierendonck, D. (2006). Adaptación española de las escalas de bienestar psicológico de Ryff. *Psicothema*, 18(3), 572-577. Recuperado de <https://www.psicothema.com/psicothema.asp?id=3255>.

- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, 55, 34-43. <https://doi.org/10.1037/0003-066x.55.1.34>
- Fierro, A. (1996). El conocimiento de sí mismo. En A. Fierro (Comp.), *Manual de Psicología de la Personalidad*. Paidós. pp. 512
- Frankl, V. (2001). El hombre en busca de sentido. Herder. pp. 168
- Gallego, D. (2000). Diagnosticar los estilos de aprendizaje. Ponencia presentada en el I Congreso Internacional de Estilos de Aprendizaje. Madrid, del 5 al 7 de julio de 2000.
- García, J. (2013). Bienestar psicológico, edad y género en universitarios españoles. *Salud & Sociedad*, 4(1), 48-58. <https://doi.org/10.22199/S07187475.2013.0001.00004>
- García, J. (2014). Psicología positiva, bienestar y calidad de vida. *En-claves del Pensamiento*, 8(16), 13-29. Recuperado de [https://www.scielo.org.mx/scielo.php?script=sci\\_arttext&pid=S1870-879X2014000200013&lng=es&nrm=iso](https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1870-879X2014000200013&lng=es&nrm=iso).
- Gianakos, I. (2002). Predictors of Coping with Work Stress: The Influences of Sex, Gender Roles, Social Desirability, and Other Locus of Control. *Sex Roles: A Journal of Research*, 46(6), 149-158. Retrieved from <https://doi.org/10.1177/0894845311415401>.
- Hudd, S. S., Dumlao, J., Erdmann-Sager, D., Murray, D., Phan, E. and Soukas, N. and Yokozuka, N. (2000). Stress at college: Effects on health habits, health status and self-esteem. *College Student Journal*, 34(2), 217-228. Retrieved from <https://go.gale.com/ps/i.do?id=GALE%7CA131318268&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=01463934&p=AONE&sw=w&userGroupName=anon%7Ebe2a888d>.
- Jerez, M. y Oyarzo, C. (2015). Estrés académico en estudiantes del Departamento de Salud de la Universidad de Los Lagos Osorno. *Revista Chilena de Neuro-Psiquiatría*, 53(3), 149-157. Recuperado de [https://scielo.conicyt.cl/scielo.php?pid=S0717-92272015000300002&script=sci\\_abstract](https://scielo.conicyt.cl/scielo.php?pid=S0717-92272015000300002&script=sci_abstract).
- Keyes, C. L. M., Shmotkin, D. and Ryff, C. D. (2002). Optimizing well-being: The Empirical Encounter of Two Traditions. *Journal of Personality and Social Psychology*, 82(6), 1007-1022. Retrieved from <https://dx.doi.org/10.1037/0022-3514.82.6.1007>.
- Manrique, K., Martínez, M. y Turizo, Y. (2008). Estudio correlacional entre el bienestar psicológico, subjetivo y social y el fatalismo, el trauma y las cogniciones irracionales

- postraumáticas, en personas adultas, desplazadas por la violencia sociopolítica, radicadas en la ciudad de Barranquilla. Trabajo de grado de pregrado psicología. *Programa de Psicología División de Humanidades y Ciencias Sociales*. Universidad del Norte Barranquilla. pp. 195
- Marsico, M. and Getch, Y. Q. (2009). Transitioning Hispanic Seniors from High School to College. *Professional School Counseling*, 12(6), 458-462. Retrieved from <https://eric.ed.gov/?id=EJ880405>.
- Maslow, A. (1991). *Motivación y personalidad*. Madrid, España: Ediciones Díaz de Santos.
- Maslow, A. (1979). *El hombre autorrealizado*. Barcelona, España: Kairós.
- Massone, A. y Urquijo, S. (2014). Bienestar psicológico en estudiantes de la Universidad Nacional de Mar del Plata, Argentina, según la edad y el género. *Salud & Sociedad*, 5(3), 274-280. Recuperado de <https://doi.org/10.22199/S07187475.2014.0003.00003>.
- Matalinares, M. L., Díaz, G., Arenas, C., Raymundo, O., Baca, D., Uceda, J., y Yaringaño, J. (2016). Afrontamiento al estrés y bienestar psicológico en estudiantes universitarios de Lima y Huancayo. *Investigación en Psicología*, 19(2), 123-143. <https://revistasinvestigacion.unmsm.edu.pe/index.php/psico/article/view/12894>
- Mondejar, J., Vargas, M. y Mondejar, J. (2007). Implantación de la metodología e-learning en la docencia universitaria a través del proyecto campus virtual. *Revista Latinoamericana de Tecnología Educativa*, 6(2), 31-47. Recuperado de <https://mascvuex.unex.es/revistas/index.php/relatec/article/view/215>.
- Moreta, R., Gabior, I. y Barrera, L. (2017). El bienestar psicológico y la satisfacción con la vida como predictores del bienestar social en una muestra de universitarios ecuatorianos. *Salud & Sociedad*, 8(2), 172-184. Recuperado de <https://doi.org/10.22199/S07187475.2017.0002.00005>.
- Oblitas, L. A. (2008). Psicología de la salud: una ciencia del bienestar y la felicidad. *Avances de Psicología*, 16(1), 9-38. Recuperado de <https://www.studocu.com/gt/document/universidad-galileo/fundamentos-de-psicologia/psicologia-de-la-salud-oblitas/5537456>.
- Perinat, M. A. (2003). Los adolescentes de la “era global”: comienzos del siglo XXI pp. 59-86. En Perinat, M. A. (coord.), *Los adolescentes en el siglo XXI: un enfoque psicosocial*. España: Universitat Oberta de Catalunya, Editorial UOC.

- Ramírez, M., Guillén, F., Machargo, J. y Luján, I. (2008). Autoconcepto social en jóvenes españoles y brasileños que practican ejercicio físico versus no practicantes. *Iberoamericana de Psicología del Ejercicio y el Deporte*, 3(2), 259-274. Recuperado de <https://www.riped-online.com/articulos/autoconcepto-social-en-jvenes-espaoles-y-brasileos-que-practican-ejercicio-fsico-versus-no-practicantes.pdf>.
- Reig, A., Cabrero, J., Ferrer, R. I. y Richart, M. (2001). *La calidad de vida y el estado de salud de los estudiantes universitarios*. Alicante, España: Biblioteca Virtual Miguel de Cervantes.
- Reynolds, A. and Chris, S. (2008). Improving Practice Through Outcomes Based Planning and Assessment: A Counseling Center Case Study. *Journal of College Student Development*, 49(4), 374-387. Retrieved from <https://doi.org/10.1353/csd.0.0017>.
- Rojas, L. (2000). *Nuestra felicidad. Una guía para vivir intensamente la vida cotidiana*. Barcelona, España: Espasa.
- Rosa-Rodríguez, Y., Negrón, N., Maldonado, Y., Quiñones, A. y Toledo, N. (2014). Dimensiones de bienestar psicológico y apoyo social percibido con relación al sexo y nivel de estudio en universitarios. *Avances en Psicología Latinoamericana*, 33(1), 31-43. Recuperado de <https://doi.org/10.12804/apl33.01.2015.03>.
- Ryan, R. M. and Deci, E. L. (2006). Self-Regulation and the Problem of Human Autonomy: Does Psychology Need Choice, Self-Determination, and Will? *Journal of Personality*, 74(6), 1557-1585. Retrieved from <https://doi.org/10.1111/j.1467-6494.2006.00420.x>.
- Ryff, C. D. (1989a). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081. Retrieved from <https://doi.org/10.1037/0022-3514.57.6.1069>.
- Ryff, C. D. (1989b). Scale of Psychological Well-being. Retrieved from [https://centerofinquiry.org/wp-content/uploads/2018/04/Ryff\\_Scales.pdf](https://centerofinquiry.org/wp-content/uploads/2018/04/Ryff_Scales.pdf).
- Ryff, C. D. and Singer, B. H. (2001). Interpersonal Flourishing: A Positive Health Agenda for the New Millennium. *Personality and Social Psychology Review*, 4(1), 30-44. Retrieved from [https://journals.sagepub.com/doi/10.1207/S15327957PSPR0401\\_4](https://journals.sagepub.com/doi/10.1207/S15327957PSPR0401_4).
- Ryff, C. D. and Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69(4), 719-727. Retrieved from <https://doi.org/10.1037//0022-3514.69.4.719>.

- Saura, P. (1995). *La educación del autoconcepto*. España: Universidad de Murcia, Servicio de Publicaciones.
- Schwitzer, A. M. (2008). College Student Health, Mental Health, and Well-Being. *Journal of College Counseling*, 11(2), -100. <https://doi.org/10.1002/j.2161-1882.2008.tb00027>.
- Seligman, M. (1999). The President's Address (Annual Report). *American Psychologist*, 54, 559-562.
- Seligman, M. (2008). Positive Health. *Applied Psychology*, 57(1), 3-18. Retrieved from <https://doi.org/10.1111/j.1464-0597.2008.00351.x>.
- Seligman, M. (2011). *La auténtica felicidad*. España: B de Bolsillo.
- Simons, C., Aysan, F., Thompson, D., Hamarat, E. and Steele, D. (2002). Coping resource availability and level of perceived stress as predictors of life satisfaction in a cohort of Turkish college students. *College Student Journal*, 36(1), 129-141.
- Smith, T. and Renk, K. (2007). Predictors of Academic-Related Stress in College Students: An Examination of Coping, Social Support, Parenting, and Anxiety. *NASPA Journal*, 44(3), 405-431. Retrieved from <https://doi.org/10.2202/1949-6605.1829>.
- Smith, W. L. and Zhang, P. (2009). Students' Perceptions and Experiences with Key Factors during the Transition from High School to College. *College Student Journal*, 43(2), 643-657. Retrieved from <https://digitalcommons.georgiasouthern.edu/soc-anth-facpubs/117>.
- Tsouros, A. D. (2000). Health Promoting Universities: concept and strategy. In Sonntag, U., Gräser, S., Stock, C. and Krämer, A. (eds.), *Gesundheitsfördernde Hochschulen. Konzepte, Strategien und Praxisbeispiele* (pp. 15-24). Weinheim und München: Juventa Verlag.
- Tsouros, A. D., Dowding, G. and Dooris, G. (1998). Strategic framework for the Health Promoting Universities project. In Tsouros, A. G., Dowding, G., Thompson, J. and Dooris, M. (eds.). *Health Promoting Universities. Concept, Experience and Framework for Action* (pp. 121-138). Copenhagen, Denmark: World Health Organization. Regional Office for Europe. Retrieved from <https://apps.who.int/iris/handle/10665/108095>.
- Vázquez, C., Hervás, G., Rahona, J. J. y Gómez, D. (2009). Bienestar psicológico y salud: Aportaciones desde la psicología positiva. *Anuario de Psicología Clínica y de la*

- Salud*, (5), 15-28. Recuperado de [https://institucionales.us.es/apcs/doc/APCS\\_5\\_esp\\_15-28.pdf](https://institucionales.us.es/apcs/doc/APCS_5_esp_15-28.pdf).
- Veliz, A. y Apodaca, P. (2012). Niveles de autoconcepto, autoeficacia académica y bienestar psicológico en estudiantes universitarios de la ciudad de Temuco. *Salud & Sociedad*, 3(2), 131-150. Recuperado de <https://doi.org/10.22199/S07187475.2012.0002.00002>.
- Yorgason, J. B., Linville, D. and Zitzman, B. (2008). Mental Health Among College Students: Do Those Who Need Services Know About and Use Them? *Journal of American College Health*, 57(2), 173-181. Retrieved from <https://doi.org/10.3200/JACH.57.2.173-182>.

Rol de Contribución	Autor (es)
Conceptualización	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Metodología	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Software	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Validación	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Análisis Formal	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Investigación	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Recursos	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Curación de datos	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Escritura - Preparación del borrador original	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Escritura - Revisión y edición	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Visualización	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Supervisión	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya

Administración de Proyectos	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya
Adquisición de fondos	Karen Aurora Vences Camacho. Principal Daniel Cardoso Jimenez. Que apoya Josué Ociel Márquez Gómez. Que apoya