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Quality of working life according to academic level for continuing education in an industrial company

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Abstract
The study aimed to determine the level of quality of working life (QWL) according to the academic level of workers in an industrial company in Navojoa, Sonora, with the aim of promoting continuous training. A mixed approach was used, employing a QWL questionnaire adapted from Quiroz et al. (2021) and a focus group with experts in training programs. One hundred and fifty workers with different educational levels (basic, upper secondary, and higher) participated, as well as four training specialists. The quantitative results showed an overall favorable perception of QWL (86.4%), with organizational management standing out as the most highly valued dimension. Statistical analysis showed significant differences between academic level and CVL, indicating that workers with higher education report better perceptions of job well-being. It was also found that employees with higher academic qualifications assimilate training content more easily, while those with basic educational levels require more practical strategies and personalized support. The focus group corroborated that academic level directly influences the use of continuing education and the motivation to participate in it. In addition, significant benefits of training in the development of technical and professional skills were noted, especially in areas such as engineering, administration, and accounting. The study concludes that education is a key factor in improving QWL and recommends designing training programs that are inclusive, flexible, and tailored to the educational diversity of workers.
Keywords: Quality of working life; Academic level; Continuing education; Job training.

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Calidad de la vida laboral según el nivel académico para la formación continua en una empresa industrial

Resumen
El estudio tuvo como objetivo determinar el nivel de calidad de vida laboral (CVL) según el nivel académico de los trabajadores de una empresa industrial en Navojoa, Sonora, con el fin de promover la formación continua. Se empleó un enfoque mixto mediante un cuestionario de CVL adaptado de Quiroz et al. (2021) y un grupo focal con expertos en programas de capacitación. Participaron 150 trabajadores de distintos niveles educativos (básico, medio superior y superior), así como cuatro especialistas en formación. Los resultados cuantitativos evidenciaron una percepción global favorable de la CVL (86.4%), destacando la gestión organizacional como la dimensión mejor valorada. El análisis estadístico mostró diferencias significativas entre nivel académico y CVL, indicando que los trabajadores con educación superior reportan mejores percepciones de bienestar laboral. Asimismo, se identificó que los empleados con mayor preparación académica asimilan con mayor facilidad los contenidos de capacitación, mientras que quienes poseen niveles educativos básicos requieren estrategias más prácticas y apoyo personalizado. El grupo focal corroboró que el nivel académico influye directamente en el aprovechamiento de la formación continua y en la motivación para participar en ella. Además, se señalaron beneficios significativos de la capacitación en el desarrollo de competencias técnicas y profesionales, especialmente en áreas como ingeniería, administración y contabilidad. El estudio concluye que la educación es un factor clave para mejorar la CVL y recomienda diseñar programas formativos inclusivos, flexibles y ajustados a la diversidad educativa de los trabajadores.
Palabras clave: Calidad de vida laboral; Nivel académico; Formación continua; Capacitación laboral.

Qualidade de vida no trabalho de acordo como nível acadêmico para educação continuada em uma empresa industrial

Resumo
O estudo teve como objetivo determinar o nível de qualidade de vida no trabalho (CVL) de acordo com o nível acadêmico dos trabalhadores de uma empresa industrial em Navojoa, Sonora, com o objetivo de promover a formação contínua. Foi utilizada uma abordagem mista por meio de um questionário de CVL adaptado de Quiroz et al. (2021) e um grupo focal com especialistas em programas de capacitação. Participaram 150 trabalhadores de diferentes níveis educacionais (básico, médio e superior), bem como quatro especialistas em formação. Os resultados quantitativos evidenciaram uma percepção global favorável da QVL (86,4%), destacando a gestão organizacional como a dimensão

mais valorizada. A análise estatística mostrou diferenças significativas entre o nível acadêmico e a CVL, indicando que os trabalhadores com ensino superior relatam melhores percepções de bem-estar no trabalho. Da mesma forma, identificou-se que os funcionários com maior preparação acadêmica assimilam mais facilmente os conteúdos da formação, enquanto aqueles com níveis de ensino básico requerem estratégias mais práticas e apoio personalizado. O grupo focal corroborou que o nível acadêmico influencia diretamente o aproveitamento da formação contínua e a motivação para participar dela. Além disso, foram apontados benefícios significativos da formação no desenvolvimento de competências técnicas e profissionais, especialmente em áreas como engenharia, administração e contabilidade. O estudo conclui que a educação é um fator-chave para melhorar a CVL e recomenda a elaboração de programas de formação inclusivos, flexíveis e ajustados à diversidade educacional dos trabalhadores.
Palavras-chave: Qualidade de vida no trabalho; Nível acadêmico; Formação contínua; Capacitação profissional.

1. Introduction

Interest in quality of working life (QWL), according to Tabassum et al. (2011, as cited in Cruz, 2018), arose in the 20th century as a result of concern about the lack of empathy within the organizational system, which emphasized strict and intolerant control over its workers, overloading their activities. During that period, employees were seen solely as tools whose sole purpose was to meet the demands of their superiors. Consequently, as a result of this mechanism, organizations experienced periods of absenteeism, demotivation, staff turnover, and resignations, highlighting the decline in work organization (Granados, 2011, as cited in Cruz, 2018). Due to these results and the lack of interest in individual well-being, the 1970s left their mark on history, when Louis Davis proposed a system that integrated human needs with those of production, seeking to eliminate dehumanization in the work areas and through it he defined the quality of work life as the concern that companies should have for the well-being and health of their members Chiavenato (2004, as cited in Gómez, 2010).

From this moment on, the concept of QWL begins to materialize as an important variable in human talent management, evolving to the physical and psychological well-being of the worker, as supported by Baitul (2012, as cited in Cruz, 2018), when defining QWL as the own opinion of the members of a company about their level of satisfaction with the work environment, regardless of the perception of their supervisors, offering a vision of the employees' point of view on their degree of well-being with respect to the environment in which they work. The aforementioned makes it clear that the level of QWL can also end in a negative evaluation that affects the social responsibility of the organization. On the other hand, Segurado Torres & Agulló Tomas (2002, as cited in Murillo et al., 2014) define CVL as a management system that seeks satisfactory and motivational environments, in addition to promoting democracy, and offering programs for professional and personal growth.

For the purposes of the Organization for Economic Cooperation and Development (OECD, 2022), the quality of life indicator covers a series of aspects

such as health, knowledge, skills, and personal well-being. Since knowledge and growth are a source of motivational power at work, it is necessary for companies to offer continuing and professional training programs. Various studies, such as that of Fernández (1999), have demonstrated the importance and impact of continuing education on workers. According to this article, the application of continuing education processes is old, and it was not until the 20th century that its need began to be noticed as a result of a crisis of lack of adaptation and the absence of university degrees.

Thus, at that time, education emerged to adapt to these new demands in the educational and labor fields, and during that period, the importance of continuing to update one's knowledge throughout life, regardless of whether that knowledge came from formal or informal education, became increasingly widespread worldwide. Thus, official organizations began to validate training courses. The National Institute of Statistics (2022) defines lifelong learning (also called permanent training, continuing education, or continuing education) as all types of training carried out throughout life, whether vocational or general, applied in formal systems and through other non-formal activities. It focuses on adults, but its educational programs can be applied to people who do not have an academic degree. López (2018) defines it as a way of qualifying employees that generates constant knowledge and also changes for the organization.

On the other hand, Sulca and Vallejo (2018) argue that continuing education includes pedagogical processes where the interested party must meet goals, ensuring their personal and professional development and meeting the expectations of the institution and point out the importance of the worker's willingness to continue learning. The academic level (or educational level) variable is defined by Sarasola (2024) as the highest grade achieved during one's studies (from basic education to postgraduate) within the educational system. However, this dimension is also measured on a scale (low, medium, high) and has always been used to investigate the possible differences it causes on other variables and therefore is especially useful in social research, when relating it to the QOL, since according to information from Wisdom Library (2025) the educational level influences health, knowledge, attitude, stigma and job opportunities. For greater emphasis, Brower (2023) points out that previous training is the most important element to access job opportunities, even more than experience.

As an international fact, a thesis was carried out in Guatemala called The academic level and integration in community development institutions, where it was found that the level of education of people has a great impact on integration into organizations, the number of individuals belonging to that type of organization increases if they have higher education. In this research, its author Reyes (2002) expresses that education is the key to change and drives knowledge and growth in society and then a low academic level prevents humanity from progressing, to obtain efficient development, prepared beings are needed to lead change. This finding highlights the importance of education in society, which is related to the workplace, where a low academic level can affect the quality of life.

An example of a study using QoL data was conducted by Rojas-Torres et al. (2021), which sought to identify QoL in employees of a beverage distribution

company in Colombia. The method used a quantitative approach with a work-life quality questionnaire. The results indicated that QoL is perceived positively in dimensions such as institutional support, but low in job satisfaction and enjoyment of free time. An important connection was found between educational level and working hours. From a national perspective, a study conducted in Monterrey, Mexico, called Continuing Education as a Tool for Professional Growth and Increasing Competitiveness in Mexico, by Cantú (2022), with the aim of describing the importance of continuing education, a quantitative study was conducted. It was concluded that graduates must continue training to be more competitive and that companies must provide training to enhance employee performance.

At the state level, at the University of Sonora, Andrade et al. (2009) analyzed graduates' perceptions of continuing education to understand the demands of the productive sector. They concluded that continuing education is important as a permanent process that offers more job skills, improves personal growth, and adapts to change. Institutions lack educational flexibility, which hinders the development of professionals. Finally, in Navojoa, Sonora, Valenzuela et al. (2021) conducted a study entitled "Quality of Work Life of Workers in an Electricity Company." A total of 141 employees participated, selected by probability sample, and a questionnaire was used as a data collection instrument. The most important finding was that job satisfaction is the most important area of opportunity to study.

To understand the behavior of variables based on the background, the QoL variable can vary according to academic level in companies, as those with more education have more amenities and job opportunities, which positively impacts their well-being. Conversely, workers with lower educational levels may face challenges in learning and in opportunities for advancement and development. In the context of this study, which was carried out at an industrial company in Navojoa, Sonora, differences in the perception of QoL were observed according to educational level.

1.1 Problem statement

According to data obtained through a census published by the Official Gazette of the Federation (DOF, 2023), only one-fifth of the population over 35 years of age has a university degree, and only 30% of those aged 18 to 22 pursue higher education. This reflects a problem regarding the future professional opportunities of individuals in Mexico. This problem is exacerbated because, according to studies by the Mexican Institute for Competitiveness (IMCO, 2021) , differences in the quality of institutions most affect those with lower educational levels, limiting their opportunities for growth, satisfaction, and professional development, as these opportunities are concentrated among the most privileged. According to data from a study by Brower (2023), 66% of participants reported having been rejected from jobs for not meeting a high academic level, and an international report by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2022) indicates that there is inequality and lack of inclusion in lifelong education that are significant.

The previous study reports that the most marginalized populations such as people with disabilities and migrants (according to 60% of the countries surveyed) and older citizens (according to 24% of the countries surveyed) are those who receive the least lifelong learning, which negatively affects their quality of life, which is a component of QOL. In a Costa Rican study, carried out by Robledo and Bueno (2020), it is mentioned that in industrial companies, employees with high educational levels report greater benefits in their professional development, with the possibility of promotion, 35% more than those with low educational levels. Meanwhile, and in relation to the QOL variable, Gammarano (2020) mentions that workers with fewer academic certifications receive fewer salary benefits, although they also tend to work fewer hours. Additionally, according to studies by the Employment Portal (2015, as cited in Abril and García, 2017), more than 2,000 Mexicans reported not feeling satisfied with their jobs.

Additionally, according to research data by Quiroz-Campas et al. (2019), administrative staff with basic education studies from several upper secondary education institutions in a municipality reported having a lower perception of quality of life than employees with bachelor's and postgraduate degrees. The main problem with this research is that the way in which academic level influences QOL is not usually explored, but in an industrial context and in access to continuing education. Therefore, the research question is: What is the level of quality of work life according to their academic level for continuing education in an industrial company?

1.2 General objective

To determine the level of quality of work life according to academic level, through a questionnaire and a focus group to promote continuing education in an industrial company .

1.3 Justification

Determining whether workers' QoL is influenced by their level of education is important, as the data from this study could provide valuable information for educational research, helping education professionals understand how educational differences (in this case, through training programs and educational level) impact individual well-being. According to opinions expressed in a forum of the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021), education is constantly evolving and must be modified according to the new demands of the work environment to improve future skills and learning. Information is needed to support students in making appropriate career decisions and provide feedback whenever required.

Likewise, this research contributed to the field of education from a workplace pedagogy perspective by integrating useful knowledge to redesign educational strategies based on real needs, in addition to promoting the importance of continuing education. Similarly, it contributes at the administrative level because it proposed areas for improvement to help design more inclusive and accessible educational policies that promote equity in access to training and development opportunities, fostering professional growth with learning that works even outside of their work area, a positive contribution at the social and motivational level. This has economic relevance, as it further highlights the importance of

investing in employee training because, according to Obando's (2020) findings, better-trained workers increase productivity, which leads to faster profits.

The importance of the variables studied lies primarily in the significant lack of research with the same objectives and in a specific industrial sector. Thanks to the data from the problem statement, it was demonstrated that, due to the low number of people with a higher education level in Mexico, it is possible that the predominant educational level among human talent in the industrial sector is basic, and that in this context, needs for inclusion and adult education programs arise. According to data extracted from the conclusion of a conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2019), only education is the path to social inclusion for people living in the most vulnerable contexts in the fight against poverty, and that is why lifelong learning is important.

As an external impact on society, the problems raised in this research may increase economic inequality and professional stagnation. Additionally, if this study were not completed, there was a risk of continuing with generic training strategies that do not take into account educational diversity, which may foster professional exclusion in this context. Regarding the vulnerability of the problem, previous studies offered solutions to problems related to the present one. For example, Veloso- Besio et al. (2018) showed that one solution to the problem of low personal satisfaction and job well-being was a low-intensity psychoeducational intervention aimed at improving interpersonal and intrapersonal skills. These results demonstrated that learning programs tailored to very specific needs are a solution to improve QoL.

This study was linked to the research line on quality of life and inclusive educational environments by introducing an analysis of QoL and its relationship with academic achievement, as well as by gaining insight into participation in training processes. As an original contribution, the field of education was linked to a non-traditional context, an industrial company in Navojoa, Sonora, which is typically viewed from administrative and economic perspectives. Through this connection, the importance of professional development activities and academic achievement in QoL was demonstrated, fostering educational inclusion and workplace well-being. Thus, the research was justified from a workplace pedagogy perspective as a tool to describe working conditions and increase opportunities for professional and educational growth.

1.4 Theoretical Framework

This theoretical framework describes detailed information about some of the concepts and definitions that support the research, in relation to the research variables that can provide the reader with what is needed to justify the project, since a solid understanding of the definitions is essential to understand the functioning and importance of making educational concepts visible within institutions that are not dedicated to teaching and learning.

1.4.1 Quality of working life

Morales and Romero (2024) mention that the feeling of individual well-being depends on the level of quality of life of the person, their own perceptions and needs around their satisfaction with various social, economic, cultural and

emotional factors. The term quality of life refers to this, to the determinants for the general well-being of an individual, such as education, work, social life and health. One of the main factors that make up the level of personal quality of life is the level of quality of working life (QWL), since, as mentioned above, work is an important factor that significantly impacts individual well-being). On the other hand, QWL refers to the influence of working conditions, experiences and knowledge within an individual's work environment (April and García, 2017). Therefore, where they provide the tools and growth opportunities necessary for their motivation are key to improving the quality of life.

For Trejo et al. (2016), QWL is not made up of universal dimensions, as these can vary depending on what needs to be assessed. That is, in each independent QWL investigation, different areas related to work can be chosen. These can include aspects, according to Patra (2022), such as education, some social relationships, self-realization, motivation, material well-being, career development, and health. For the purposes of this study, one of the least explored factors when measuring QWL is the educational level of workers within a company because employee well-being is mainly related to their work activities, and the educational aspect is generally only explored in academic institutions.

The above is important according to information from Pérez (2024), who assures that one of the keys to improving the quality of life of the worker is to implement continuous learning strategies, since collaborators value that their superiors empathize with them and that non-mandatory workshops are offered that improve their personal growth. Additionally, the International Journal of Indian Psychology defines QOL as the elements of work that humanize the worker because the psychological factor impacts their satisfaction and respect for the company. The relationship with the leader (who is also the main person responsible for the level of QOL) and colleagues, as well as recognition for their efforts, are the aspects that have the greatest power in QOL (Patra , 2022).

1.4.2 Academic level

The Colegio del Valle (2023) provides data on academic level, which is known as the highest level of formal education an individual has achieved and can measure their intellectual abilities. Academic levels in Mexico begin with basic education, consisting of preschool, where children between the ages of 3 and 5 begin their education and complement their development with art, social interaction, and extrasensory activities. Elementary school is where individuals complement their education and learn communication and math skills. The third level of basic education is secondary school , with students aged 13 to 15, where they begin their preparation to acquire knowledge primarily in the sciences and humanities, which will guide them toward their future choices. During upper secondary school, which is high school, students are prepared with communication and research skills related to the workplace to contextualize them at a higher level.

In the latter, we refer to the bachelor's or engineering degree level, which refers to the student's chosen field of study to learn about the labor market. Another higher level is postgraduate, which complements bachelor's studies. The doctorate is known as the highest level of study. Additionally, there is the higher technical university level, which is more closely related to specific training to determine a

job activity (Colegio del Valle, 2023). The importance of determining the impact of the educational level within the industrial context lies in the fact that, according to Massa (2015), human resources departments can manage their staff according to their competencies. This means that in a recruitment process, they identify the best candidate based on their abilities, learning and knowledge, academic level, or work experience. Or, when promoting to a higher position, where the best qualified candidates are selected for the position in question. It is very important to design educational programs within the company for these cases, where employees are trained according to their requirements, since, without bachelor's degrees, they learn through courses.

1.4.3 Inequality and educational inclusion in the workplace

Due to the differences that the level of education can cause in the CVL, it is necessary to understand that educational inequality is defined as a failure in the fair distribution of opportunities by the educational system, in which it does not provide the same benefits to people of different socioeconomic levels, with different levels of learning, nor does it equalize the performance of all those involved (Muñoz, 2003, as cited in Favila and Navarro, 2017). A previously conducted study highlighted that income distribution in Mexico's federal entities is determined by their educational inequality and indicated that states other than Nuevo León or Sonora have difficulties in the labor market due to their low academic level due to a lack of opportunities and educational inequality, since in many cases they do not go beyond high school and this even generates job stagnation and low wages (Favila and Navarro, 2017).

According to Silva (2007, cited in Álvarez, 2018), education is diverse, since all people have different learning styles and training levels. For example, there are people with limited access to education due to economic, social, or cultural factors, who may have less knowledge than their peers in training professio nals. Therefore, educational inclusion is necessary, a term mostly seen in formal school environments, also impacting QOL in relation to equal growth opportunities, since for Cortés (2024), educational inclusion is the process by which people have the same rights to learn, regardless of any aspect such as socioeconomic level, academic level, or personal aspects. Continuing education within a company becomes more inclusive when free learning is offered to the participant, without any discrimination due to their lack of opportunities.

The above concept is important to feed the worker's extrinsic motivation, which, according to Álvarez and Rojas (2021, as cited in Castro, 2023) is the type of motivation that needs external factors, such as rewards from the activity to be carried out, such as participating in training, that help them maintain interest in participating, according to their needs, goals and objectives. Jiménez et al. (2017, as cited in Álvarez, 2018) mention that there is a wide range of methods to promote inclusion in terms of the diversity of particular situations of the training participant, such as getting apprentices to collaborate with each other to help each other, increase their opportunities and also offer personalized materials according to needs, in addition to sharing experiences.

1.4.4 Continuing education in companies

For Solé and Mirabet (1997, as cited in Massa, 2015), the term "training" refers to teaching workers how to learn through training that improves their technical and professional skills, increasing their knowledge and making them more qualified. Teaching and learning are concepts that are usually associated almost exclusively with academic contexts, when in reality, education goes beyond school. Workers with extensive academic training do not always have better job performance or better positions in a company. Sometimes, employees who participate in educational programs within the company can achieve better results and growth opportunities, regardless of whether they continued beyond their basic education.

The European Online University (2023) mentions that continuing education, also known as continuing training, is a theoretical-practical, active, and permanent teaching-learning process that is generally used through courses, workshops, diplomas, among others, and that is designed for people with educational purposes such as updating or reinforcing professional knowledge and skills that promote adaptability and flexibility. For Massa (2015), continuing education is not the same as simple training, and it is not isolated, since it is useful for personal goals. Therefore, educational programs within an industrial or any other sector are considered investments that contribute to society in general. This term is similar to that of training, which according to the Federal Attorney for the Defense of Labor (PROFEDET, 2018) is a set of activities and training plans to train a person according to the requirements of the organization or the job.

1.4.5 Benefits of continuing education

Recognizing that education is one of the pillars of cognitive development and should not end once academic training is completed. There is a wide variety of courses, diplomas, postgraduate degrees and other training programs for learning. The Continuing Education Network of Latin America and Europe (RECLA, 2022) recognizes that continuing to study not only provides technical skills, but also soft skills such as solving specific problems that are important for personal life as well. It is also mentioned that continuous Changes in the world of work mean that knowledge acquired during schooling is becoming obsolete. This creates a growing personal need for continuous learning for adults seeking professional development and entry into the workforce. Learning is a source of inspiration that can generate good ideas in workers and improve their personal satisfaction.

Continuing education generates professionals updated in the digital world in the case of distance classes and the fact of demonstrating being a person with learning interests, who finds a balance between their work and education makes them valuable to industries, helps to have emotional health and this contributes to better professional development and minimizes stress and demotivation (RECLA, 2022). According to Moldes (2021), continuing education plans seek to organize the teaching and learning actions of a company to improve its overall performance, which personally benefits the participant. Massa (2015) indicates that a training model commonly used in organizations that are dedicated to teaching is one based on know-how, which refers to practical activities, carrying out their knowledge in a correct way. Finally, continuing education implies

improving quality as a person to increase QoL, such as increasing self-interest in carrying out activities, improving attitude, not depending on anyone, but knowing how to work as a team, since emotional intelligence increases and you can learn to control negative emotions in difficult times.

2. Method

2.1 Type of study

This chapter describes the research design, scope, participants, and procedures. Details of the instruments, their reliability, and validity are also presented. Due to the nature of the research, a deductive method with a mixed approach was used, applying a qualitative instrument (focus group) and a quantitative instrument (QLW questionnaire). According to Corona and Fonseca (2023), an exploratory thesis is one for which little information is available and which investigates within specific contexts or lesser-known variables. In this case, the phenomenon is not commonly addressed in the educational field or in a non-traditional setting such as this study, which is an industrial company, not an educational institution.

Additionally, it is also considered correlational because it analyzes the relationship between one variable (academic level) and another (quality of work life). Huaire (2019) mentions that correlational research is one that establishes the connection between two or more dimensions. The applied design is cross-sectional (non-experimental). This design collects information at a single point in time, without the need to verify the data at the beginning and end of the research, as in studies that analyze a process. Its objective is to analyze variables and what they generate in a single time (Huaire, 2019). The study is non-experimental because its purpose is not to manipulate the variables.

2.2 Participants

The research participants were 150 workers from an industrial company in Navojoa, Sonora, residents of the municipality where the study organization was located and nearby rural settlements. All areas and departments of the organization were considered; however, the largest number of individuals were from the production area, followed by administration. Regarding gender, 56 females and 94 males were present, due to the predominant participation of this group during the survey process, as the company has a greater number of male employees.

Any age was allowed, starting at 18 years old, without limit, and the range that was repeated most was 22 to 30 years old with a group of 49 participants. Those who answered the questionnaire the least were only 14 collaborators over 50 years old. The academic level variable was led by 57 participants with higher education, 47 with upper secondary education, and 46 with basic education. For this study, a confidence level of 80% was selected, corresponding to a value of D = 1.28. The formula used to obtain the sample was that of Stevenson (1981, as cited in Guerra, 2021): $n = D^2pqN / [e^2(N-1) + D^2pq]$. The result was a sample of 150 individuals from a total population of 1,800. The values used and the reference confidence levels are presented in the following tables.

The qualitative methodology of the study consisted of the participation of four experts in continuing education programs with higher education, working in the areas of organizational development, staff development, comprehensive health, and training. Two of them were male and two were female. The ages were distinguished as 24, 27, 31, and 50 years. This sample was selected based on convenience, availability, and professional experience.

2.3 Data collection instruments or techniques

The main instrument used in this research was adapted from the QOL questionnaire designed by Quiroz et al. (2021), which is divided into three dimensions: quality of life, organizational management, and organizational performance. The questionnaire collected participants' sociodemographic data and consisted of 31 items in total, distributed as follows: 8 items for quality of life, 10 items for organizational management, and 13 items for organizational performance. A 5-point Likert scale was used, where participants responded from "Strongly agree" (5) to "Strongly disagree" (1). To determine its validity, the questionnaire was compared with similar QOL instruments, and a group of expert teachers were asked to approve its clarity, relevance, and relevance.

For the qualitative instrument, a focus group was conducted within the company, as it is a valuable technique in social and educational research, as Benavides-Lara et al. (2022) mention in an exploratory thesis. To address the objective, focus groups enrich the topic through personal experiences and provide answers when there are different objectives, without mentioning too much information as in the collection of several interviews. In this context, this instrument was written to explore the academic level in the company's continuing education programs. These questions were the following:

- To what extent do you think the academic level of employees influences the effectiveness of learning in training?
- What strategies do you use to motivate employees with diverse academic levels to participate in continuing education programs?
- Have you observed improvements in your skills and competencies as a result of ongoing training? If so, in what specific areas?
- What strategies are used to adapt continuing education content to the specific educational needs of employees? How are employees with special needs integrated?
- What are the main professions that benefit from continuing education programs ?

2.4 Instrument Reliability.

Varimax rotation, and the KMO and Bartlett tests. The reliability of the questionnaire was verified using SPSS version 26, yielding a Cronbach's alpha coefficient of 0.983, which is considered excellent. To confirm its validity, it was presented to a group of teachers who determined that the instrument had fulfilled its purpose and objectives in relation to the research. Linking the two, the content and construct validity of the instrument guarantee that it measures the quality of work life in detail based on the dimensions used. The validity of the instrument for professionals ensures that the results obtained after its application will be

efficient and robust for evaluating the perception of the quality of work life in industrial companies.

2.5 Procedure

The quantitative study was carried out following the following methodological steps Hernández and Baptista (2006, as cited in Hurtado, 2020).

- Identify the research problem.
- Type of research.
- Establish research hypotheses (if applicable).
- Define the research design.
- Sample selection. A sample of 150 participants was selected.
- Data collection. Once permission was obtained to administer the instruments, a visit was made to the company. The survey took two days to administer due to the factory's availability. Participants were asked to read the informed consent form and completed the survey using Google Forms and in physical form.
- Data analysis. Statistical analysis was performed to obtain the results, which were presented in descriptive tables. Measures of central tendency and standard deviation, mean, and media were used. Cronbach's alpha was calculated, and SPSS statistical software was used for data analysis. Excel statistical functions and a Student t-test were used to identify the influence of variables, which were then presented in descriptive tables.

To carry out the focus group the following methodology was used:

- Define the purpose of the focus group, which was to understand the influence of academic level within training programs.
- Select key participants, experts in the field. After selecting the company, participants were informed about the focus group's objectives, permission was requested and obtained, and a date for the focus group was agreed upon.
- Design a semi-structured question guide. Participants were provided with the questions two days in advance so they could prepare for the meeting.
- Conduct the session with a moderator. In this case, a recording was made during the interview to ensure no details were missed, and notes were also taken. The entire process lasted 40 minutes due to the number of questions.
- Describe the most important findings.

3. Resultados

This chapter presents the results obtained from 150 surveyed workers and four focus group participants. All participants were employees of an industrial company in Navojoa, Sonora. The objective of the questionnaire was to obtain the percentage of quality of work life of workers in an industrial company according to their educational level. In fulfilling this objective, the findings reflect that the QOL index reached 86.4% among all respondents, indicating a favorable perception of QOL. The focus group found that academic level influences the ability to take advantage of training in an industrial company. Employees with

higher levels of education assimilate and apply knowledge better, while those with less education require practical methods and personalized support.

Table 1. *General results by variable*

Variable	Average
Quality of life	4.26
Organizational management	4.47
Organizational performance	4.24
Total	4.32

Source: own elaboration.

Table 1 shows the results obtained in each of the dimensions of the questionnaire, which are listed on the right side of the table. For the *quality of life variable*, an average of 4.26 was obtained, demonstrating that workers perceive a good level of QoL, with a tendency toward high values in most items. In the *organizational management dimension,* which measures the company's administration, an overall score of 4.47 was obtained, being the dimension with the best average of the instrument. This expresses that the majority of the company's employees believe that management is very efficient. Finally, the overall score for *organizational performance is observed* , with an average less favorable than the previous ones (4.24), which indicates that participants mostly agree with their performance and efficiency in their work. The fact that this last variable obtained the lowest score does not exempt it from indicating a highly positive perception. The overall values were calculated using Excel statistical functions based on the responses to each item, previously calculated. The above demonstrates the good perception of CVL by the participants.

Table 2. *Test for a sample*

One-sample Student T-test						
	Test value = 0					
	t	gl	Sig. (bilateral)	Difference of means	95% confidence margin on the difference Lower	Superior
Level of education	40,765	150	.000	3.093	2.94	3.24

Source: Own elaboration

According to the results obtained from Table 2, the sample for the analysis is determined between the QoL and the level of education, since they present statistical differences by the statistical value of contrast. In the present case, the significance reflected is 0.000, with an indicator less than 0.05. In this way, it can be stated that statistically significant differences have been found between the academic level and the QoL level. Checking the following results of the qualitative

analysis, it is deduced that the higher academic level is the one that perceives a higher level of QoL compared to the basic and upper secondary levels. The previous results respond to the general objective of the research.

3.1 Results of the qualitative analysis

This section provides a summary of the responses obtained during the focus group session:

- Influence of academic level on learning and participation: Participants consistently stated that academic level significantly influences the use of continuing education, particularly when considering the degree of complexity of the content. It was mentioned that employees with professional studies tend to have greater analytical skills, theoretical understanding, and technological skills, which makes it easier for them to actively participate in learning. One of them stated: "Managing in-depth content among professionals is not the same as managing it among people with low educational levels. They prefer practical learning within their field." Likewise, barriers to accessing education were identified among employees with basic education, including cases of functional illiteracy. Even so, it was recognized that with appropriate strategies (such as tutoring, individual support, and platform adaptation), these workers can participate successfully.
- Motivational and retention strategies in training programs: Participants indicated that the most effective approach is to connect training with professional development, salary increases, and personal growth. Furthermore, the fact that the programs offer official validation and technical degrees represents a key motivational factor for those who did not complete their studies, stating that they are motivated to graduate free of charge. Flexible scheduling was also perceived as a facilitator, especially in an environment where time and finances are limiting factors. For workers with higher education, motivation is more intrinsic, linked to the desire to optimize processes, innovate, or advance to strategic positions.
- Results observed after ongoing training: Clear improvements in job skills were reported, especially in technical, administrative, and specialized areas. The most benefited professions were engineering, accounting, administration, and technical areas such as electromechanics. For workers with less education, learning focused more on mastering specific operational tasks, although its impact on productivity was also significant. It was reported that after completing training programs, some employees improved their skills by up to 80%.
- Adaptation of content and attention to special needs: Training managers emphasized the importance of adapting content to the educational level and individual needs. Oral assessments have been implemented for students who are not proficient in reading and writing, and materials with varying levels of difficulty are used. Inclusive strategies have been implemented for employees with disabilities, such as mandatory subtitles, clear language, and personalized support. One example is a deaf student who was successfully integrated.

- Professions with the greatest benefits: According to participants, the workers who benefited the most in terms of number and progress were industrial engineers, followed by accountants, administrators, food chemists, and psychologists. However, the benefits for staff with a high school diploma were also highlighted, thanks to programs that allow them to obtain a technical degree and thus access new job opportunities within the organization.

The qualitative findings obtained through the instrument reinforce and complement the quantitative results of the research, providing enriching information on the relationship between academic level and quality of work life in the company. Participants' responses highlight the importance they place on education, not only as a means of professional and personal development, but also as an essential factor in improving productivity and integration. These results demonstrate the need for educational strategies tailored to different academic levels, highlighting the impact of education on quality of work life and helping to promote continuing education in industrial companies.

4. Discussion

According to the study's overall objective, to determine the level of QoL according to academic standing through a questionnaire and a focus group to promote continuing education in an industrial company, Table 1 shows the means for each dimension of the questionnaire, as well as the overall mean of QoL, indicating a positive QoL level, with a mean of 4.32. The variable with the highest satisfaction was organizational management, with a mean of 4.47, which confirms that most participants claim to understand their responsibilities and the institution's objectives. The quality of life dimension obtained a positive result of 4.26, reporting satisfaction primarily with their workday. The lowest aspect was organizational performance, with an overall mean of 4.24, which remains positive, mainly in relation to personal performance, although some feel that their opinion is not heard. These data are key to promoting the creation of continuing or professional training plans that respond to current conditions and strengthen the identified areas of opportunity.

In Table 2, a Student t-test shows significant differences between academic level and CVL. Regarding the focus group, participants mentioned that there are still several differences in the use of training based on academic level, with workers with a bachelor's degree being the most adaptable. In terms of inclusion, the company has implemented measures to integrate employees with special needs, and some assessment materials and methods have been adapted to ensure learning. The problem lies in managing the lack of interest of some employees with a basic education level. Industrial engineering was also identified as the major that benefits most from training programs, reflecting the need to adapt plans to other majors or educational levels. The results of both instruments suggest that the workers most satisfied with their CVL are those with higher education degrees and that the company takes its educational practices seriously.

To compare the findings, similarities were found in the thesis by Astudillo-Romero et al. (2025), entitled "Quality of Work Life among Healthcare Personnel

in Public Hospitals in Ecuador." Their staff felt that their ideas and initiatives were not valued, and educational background impacted QoL, with graduate and undergraduate staff being the most satisfied. However, 54.7% of the categories reported low QoL, unlike the present study, where 86.4% of the total respondents had a positive perception of QoL. In the research by Quiroz-Campas et al. (2019), entitled: Perceived quality of work life according to the level of education of the administrative and academic staff of the high schools of the municipality of Etchojoa, Sonora, it was mentioned that the average QoL of the three schools was 7.43, highlighting satisfaction with salary as the highest and the possibility of promotion as the lowest, in addition to the fact that the highest level of QoL was perceived by workers with a higher level of education.

Based on the above, it is evident that academic level directly influences QoL. For the qualitative data, similarities were found with the study by Laguna - Muggenburg et al. (2021), entitled "Understanding the factors that influence skills improvement." Data showed that people with higher educational levels and a greater number of prior training degrees tend to participate more in knowledge improvement processes through continuous learning programs and recommend offering more training to their employees. It is also mentioned that employees with higher levels of education report greater satisfaction with their working conditions and with skill improvement. As in this study, it was found that employees with a bachelor's degree participate more in training.

On the other hand, the American University of Europe (UNADE, 2024) mentions that Abraham Maslow's 1943 theory of needs establishes five levels of human needs. The first three levels address physiological, security, and affiliation needs. Level four addresses recognition needs, and at the top are self-actualization needs. In this sense, employees with higher academic levels are closer to fulfilling their higher-order needs (recognition, self-actualization), which explains their greater benefit from training and satisfaction with personal performance. The higher the educational level, the greater the risk of satisfying complex needs and improving their QoL level.

5. Conclusiones

This study provides an updated and novel perspective by focusing specifically on the industrial context of Navojoa, Sonora. This study indicates a development in the often under-documented field of business education, thus providing enriching information on training strategies to improve QoL. In practice, the results offer a basis for designing training and professional development plans that consider limitations based on academic level, interest in continuing education, and participation mechanisms that take into account the opinions of all employees. As a limitation, the study was conducted in a single company, which may prevent the results from being generalizable; furthermore, few dimensions of QoL were included. This research may spark interest in investigating the topic not only in the industrial sector but also in other types of companies.

The results achieved the overall objective of the research, which was to determine the level of quality of work life based on academic level, through a questionnaire and a focus group to promote continuing education in an industrial company. The questionnaire revealed that the level of QOL of participants in the context was

mostly positive. To answer the research question, it was found that there is a significant difference between academic level and QOL, identifying that workers with a higher education level perceive their work environment better. The findings obtained from the focus group session determined the influence of academic level on continuing education and highlighted the importance of educational strategies tailored to different academic levels, providing information for designing a vocational training plan based on specific needs and encouraging worker participation.

5.1 Recommendations

There is a clear need to design educational programs tailored to the diverse backgrounds of employees to facilitate their access to growth opportunities, with methodologies adapted to their learning levels and flexible educational plans, since, as identified in the focus group, some professions offer better benefits. Similarly, it is important to promote equitable training and development policies that do not condition incentives based on educational level and to continuously monitor the quality of work life, ensuring that career growth opportunities are accessible to all workers. For future studies, it is recommended that the instrument be applied to several companies in the same sector, as well as that the study sample be separated by academic level. It would also be beneficial to have more extensive qualitative data collection, using individual interviews.

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