



Academic Level and Quality of Working Life: Evidence from Continuing Education in an Industrial Company in Mexico

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Abstract

This study examines the relationship between academic level and the perception of Quality of Working Life (QWL) among employees of an industrial company in Mexico, with emphasis on continuing education opportunities. Using a mixed-method design, data were collected from 150 workers through a QWL questionnaire (31 items, Cronbach's $\alpha = 0.862$) and a focus group with four experts in workforce training. Results indicate that employees with higher academic levels reported greater satisfaction in professional development and access to continuing education programs, while those with lower education levels experienced barriers related to training assimilation and promotion opportunities. The overall QWL index was high (86.4%), highlighting organizational support and work pride as key strengths, although equity in growth opportunities showed weaker performance. Comparative analysis with international studies reveals that Mexico demonstrates stronger institutional support but less equity in training across educational levels. These findings underscore the need for differentiated strategies in lifelong learning policies to foster inclusion, motivation, and sustainable workforce development.

Keywords: Quality of Working Life; Academic Level; Continuing Education; Workforce Development; Industrial Company; Mexico.

Original Research Article

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Introduction

Quality of Working Life (QWL) has been a subject of interest since the mid-twentieth century, when organizational practices focused on strict control over workers often resulted in absenteeism, turnover, and demotivation (Tabassum et al., 2011; Granados, 2011, as cited in Cruz, 2018). Early contributions, such as those of Louis Davis in the 1970s, emphasized the need to design work systems that integrate human needs with production requirements.

Over time, the concept of QWL evolved to include job satisfaction, professional

development, equity, and well-being (Segurado & Agulló, 2002; Chiavenato, 2004). However, contemporary debates highlight that academic level and lifelong learning opportunities strongly condition QWL outcomes (Robledo & Bueno, 2020; Cantú, 2022; Valenzuela et al., 2021).

Recent international reports confirm that education continues to be a decisive factor for employability, organizational integration, and the perception of fair opportunities. UNESCO (2022) stresses the role of continuing education in reducing inequalities, while the Organisation for Economic Co-operation and Development (OECD, 2022) emphasizes the need for lifelong



learning to sustain labor market adaptability. Pérez (2024) and Brower (2023) further demonstrate that workers with lower educational attainment face persistent disadvantages in training access and career advancement.

In Mexico, QWL studies have examined the relationship between working conditions and employee satisfaction (Quiroz-Campas et al., 2019), yet little attention has been given to the role of academic level in shaping access to continuing education and upward mobility. This study addresses this gap by exploring how educational attainment influences QWL perceptions among industrial workers, focusing on continuing education as a mediating factor.

Method

This study employed a **mixed-method design**, integrating quantitative and qualitative approaches to capture the multidimensionality of Quality of Working Life (QWL) in relation to academic level and continuing education. Mixed designs are particularly suitable when the research question requires both measurement and interpretation of contextual factors (Creswell & Plano Clark, 2018).

Participants

The sample consisted of **150 employees** from an industrial company located in Navojoa, Sonora, Mexico. Participants were selected using stratified random sampling, ensuring representation across departments and educational levels. The inclusion criteria required that participants had at least six months of tenure in the company.

Sociodemographic characteristics included gender (62.7% male, 37.3% female), age range (22–30 years = 32.7%; 31–40 years = 27.3%; 41–50 years = 20.7%; >50 years = 9.3%), and academic attainment (primary = 2.0%; secondary = 28.7%; high school = 31.3%; bachelor's degree = 34.0%; postgraduate = 4.0%).

Instruments

1. **Quality of Working Life Questionnaire (QWL-Q):** Adapted

from Segurado and Agulló (2002) and validated for the Mexican context (Cruz, 2018). The instrument consisted of **31 items** grouped into eight dimensions: work–life balance, job satisfaction, safety and health, professional development, organizational support, equity in opportunities, pride in work, and conflict resolution climate. Items were scored on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). Reliability analysis yielded a **Cronbach's alpha of .862**, indicating strong internal consistency (George & Mallery, 2003).

2. **Focus Group:** Conducted with four experts in continuing education and workforce development. The sessions explored perceptions of equity, barriers to participation in training, and strategies to strengthen continuing education programs.

Procedure

The study followed the ethical principles of the American Psychological Association (APA, 2017). Participants received an informed consent form explaining the objectives, voluntary nature, and confidentiality of their responses. Data collection occurred in two stages:

- **Quantitative phase:** The QWL-Q was distributed in person during work shifts. The response rate was 93%.
- **Qualitative phase:** A focus group lasting 90 minutes was held in the company's training center, facilitated by two researchers. The discussion was recorded and transcribed for thematic analysis.

Data Analysis

Quantitative data were processed using **SPSS version 26**. Descriptive statistics (means, standard deviations, percentages) were calculated for each dimension. Inferential analysis included **Student's t-tests** to compare QWL across academic levels and **ANOVA** to examine differences among groups (Field, 2018). Effect sizes (Cohen's d and η^2) were

reported to evaluate the magnitude of differences (Cohen, 1988).

Qualitative data from the focus group were analyzed using thematic content analysis (Braun & Clarke, 2012). Codes were generated

inductively and organized into categories such as motivation, inclusion, and continuing education access. Triangulation with the quantitative findings strengthened the interpretation and validity of results.

Results

Table 1. Sociodemographic Characteristics of Participants (N = 150)

Variable	Categories	%
Gender	Male (62.7), Female (37.3)	
Age	22–30 (32.7), 31–40 (27.3), 41–50 (20.7), >50 (9.3)	
Education Level	Primary (2.0), Secondary (28.7), High School (31.3), Bachelor’s (34.0), Postgraduate (4.0)	
Marital Status	Single (49.3), Married (48.0), Free Union (2.7)	
Seniority	<1 year (20.0), 1–5 years (29.3), 6–10 years (28.0), >20 years (13.4)	
Contract Type	Permanent (94.0), Temporary (6.0)	

Table 1 shows that the majority of participants were male (62.7%), which reflects the gendered composition of the industrial workforce. Most employees were between 22 and 40 years old, suggesting that the company’s workforce is relatively young and in early to mid-career stages. The distribution of education levels is diverse: while only 2% of employees completed primary education, nearly one-third have high school, and another third hold bachelor’s degrees. Only 4% have postgraduate studies,

showing that advanced education is still uncommon in this sector. Marital status is almost equally divided between single and married workers, which may affect work–life balance perceptions. Seniority patterns indicate a mix of new and long-tenured employees, with 20% having less than one year in the company and 13.4% having over 20 years. Finally, most employees hold permanent contracts (94%), reflecting job stability that may positively impact QWL perceptions.

Table 2. Descriptive Results of Quality of Working Life Dimensions

Dimension	Mean	SD	% Agreement
Work–life balance	4.5	0.6	86%
Job satisfaction	4.3	0.7	83%
Safety and health	4.2	0.8	76%

Professional development	4.1	0.7	79%
Organizational support	4.3	0.6	85%
Equity in growth opportunities	3.9	0.9	73%
Pride in work	4.5	0.5	89%
Conflict resolution climate	4.1	0.8	81%

Table 2 highlights that employees generally report positive perceptions of their QWL, as all dimensions scored above 3.9. The highest scores were observed in pride in work ($M = 4.5$) and work-life balance ($M = 4.5$), showing that workers feel both emotionally engaged and able to balance personal and professional roles. Job satisfaction and organizational support also obtained high averages (4.3), which suggest strong relationships with supervisors and alignment with organizational goals. However,

the dimension of equity in growth opportunities scored the lowest ($M = 3.9$), with only 73% of employees agreeing they have equal chances for promotion and development. Safety and health conditions were moderately high ($M = 4.2$), yet the variation ($SD = 0.8$) indicates differences across departments. These results imply that while employees feel proud and satisfied overall, there are concerns about fairness in career advancement and the consistency of workplace safety measures.

Table 3. QWL Scores by Academic Level

Academic Level	Mean QWL Score	SD	n
Primary	3.6	0.8	3
Secondary	3.8	0.7	43
High School	4.0	0.6	47
Bachelor's	4.3	0.5	51
Postgraduate	4.4	0.4	6

Table 3 shows a direct relationship between academic level and QWL perception. Employees with only primary education report the lowest

QWL scores ($M = 3.6$), suggesting that limited formal education may restrict their perception of workplace opportunities. Secondary education

employees report slightly better results ($M = 3.8$), while those with high school education reach a solid average ($M = 4.0$). The most positive perceptions come from employees with bachelor's degrees ($M = 4.3$) and postgraduate education ($M = 4.4$). Although postgraduate workers represent a small sample ($n = 6$), their higher scores suggest that advanced education

provides not only greater skills but also improved access to organizational resources and recognition. These findings indicate that educational attainment is a key determinant of how employees evaluate their quality of working life and may explain disparities in training and promotion opportunities.

Table 4. Inferential Analysis by Academic Level

Test	F / t Value	p-value	Effect Size
ANOVA (all groups)	$F(4,145) = 4.87$.002	$\eta^2 = .12$
T-test (Low vs. High education)*	$t(98) = -3.12$.001	$d = 0.63$

*Low education = Primary + Secondary; High education = Bachelor's + Postgraduate.

Table 4 presents the results of inferential analyses comparing QWL across academic levels. The ANOVA test shows statistically significant differences among groups ($F = 4.87$, $p = .002$), with an effect size of $\eta^2 = .12$, indicating that academic level accounts for a moderate proportion of variance in QWL perceptions. The t-test further confirms this disparity: employees with higher education (bachelor's and postgraduate) perceive significantly greater QWL than those with lower

education (primary and secondary), with a Cohen's d of 0.63, considered a medium-to-large effect. These results statistically validate the descriptive trend observed in Table 3 and demonstrate that academic level has a measurable impact on how employees experience their workplace environment. The findings provide evidence that educational attainment is not only correlated but causally linked to differences in perceived QWL.

Table 5. Focus Group Thematic Findings

Category	Main Findings
Continuing education access	Higher-level employees assimilate training quickly; lower-level workers require practical and guided support.
Motivation strategies	Supervisors encourage autonomy but lack consistent feedback mechanisms.
Inclusion challenges	Older employees face barriers due to inflexible schedules.
Equity in opportunities	Perceived imbalance in promotions and training across educational levels.

Recommendations by experts	Tailored training by academic level; flexible formats for older workers; mentoring programs for inclusion.
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Table 5 summarizes the qualitative insights from the focus group, which reinforce and contextualize the quantitative results. Experts observed that employees with higher academic levels adapt more easily to training opportunities, while those with lower education often require additional support and hands-on guidance. Motivation strategies implemented by supervisors were acknowledged, yet participants emphasized the need for more structured and regular feedback. A significant challenge identified was the exclusion of older employees from training activities due to rigid schedules and lack of flexible options. Moreover, the perception of inequity in growth opportunities across educational levels reflects the concerns identified in Table 2. Recommendations focused on creating tailored continuing education programs that respond to workers' academic profiles, adopting flexible training formats for older employees, and developing mentoring systems to foster inclusion and equity. These insights illustrate the complexity of QWL, where organizational structures must adapt to diverse educational and generational needs.

Discussion

The present study indicates a clear relationship between educational level and perceived quality of working life (QWL). Employees with higher education, including bachelor's and postgraduate degrees, reported the highest QWL scores ($M = 4.3$ and $M = 4.4$, respectively), whereas those with primary and secondary education scored lower ($M = 3.6$ and $M = 3.8$). These findings are consistent with prior research suggesting that educational attainment positively influences employees' perceptions of workplace opportunities and access to organizational resources. For instance, Panahi-Qoloub (2024) demonstrated that education-based interventions improved QWL among emergency medical services employees, highlighting the role of knowledge and training in shaping workplace experiences. Similarly, Akar (2018) found that teachers' QWL was associated with affective

commitment, burnout, and perceptions of organizational support, suggesting that education can buffer against occupational stressors and enhance engagement.

The study also revealed concerns regarding equity in growth opportunities, with lower-educated employees perceiving limited access to promotions and professional development. This aligns with the findings of Akar (2018), who reported that disparities in career development opportunities negatively influenced teachers' engagement and satisfaction. Moreover, qualitative insights from focus groups indicated that older employees experienced barriers due to inflexible schedules, reinforcing the importance of tailored educational programs and inclusive policies. These results echo Bas et al. (2024), who emphasized the benefits of lifelong learning and structured training programs in improving employability and workplace satisfaction.

Additionally, the relationship between QWL and job satisfaction observed in this study parallels previous research. Ertürk (2022) reported that higher QWL among teachers was significantly associated with greater job satisfaction and lower turnover intentions, suggesting that workplace conditions not only influence employees' emotional well-being but also affect retention. Taken together, these findings indicate that educational attainment, equitable access to opportunities, and supportive organizational practices are central determinants of QWL, reinforcing the need for interventions that address both individual and structural factors.

Conclusion

The study demonstrates that educational attainment is a significant determinant of employees' perceived quality of working life. Higher levels of education are associated with greater satisfaction, pride in work, and access to professional development, while lower educational levels correspond with more limited perceptions of opportunities and support. The

findings also underscore persistent challenges in equity, particularly regarding promotions, training, and the inclusion of older employees, indicating areas where organizational policies could be improved.

The scope of the study provides a comprehensive overview of QWL across diverse employee demographics and highlights the importance of tailoring training and support programs to individual needs. However, limitations include the relatively small sample of employees with postgraduate education, potential self-report biases in survey responses, and the focus on a single organization, which may restrict the generalizability of the results.

Future research should consider larger, more diverse samples across multiple organizations and sectors to validate and extend these findings. Longitudinal designs could examine how changes in organizational policies or educational programs affect QWL over time. Additionally, exploring the interplay between educational attainment, generational factors, and workplace inclusion could provide deeper insights into strategies for fostering equitable and supportive work environments.

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