

## **Compromiso organizacional en preparatorias públicas y privadas del estado de Chihuahua, México**

*Organizational commitment in public and private high schools in Chihuahua, Mexico*

*Compromisso organizacional em escolas secundárias públicas e privadas no estado de Chihuahua, México*

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### **Resumen**

La presente investigación planteó como objetivo desarrollar un modelo para gestionar el compromiso organizacional en preparatorias públicas y privadas del Departamento de Educación Media Superior del Estado de Chihuahua. Para ello, se tomó como base el enfoque multidimensional del compromiso organizacional (Meyer y Allen, 1991), pues este permite estudiarlo desde la dimensión afectiva, normativa y calculada. A través de un estudio transversal, correlacional y no experimental, se administró una encuesta por conveniencia a 618 empleados de 174 preparatorias públicas y privadas (29.1 % administrativos y 70.9 % docentes). Los datos se analizaron con el paquete SPSS, utilizando estadística descriptiva, prueba t de Student, ANOVA y

correlaciones de Pearson. Los resultados demostraron un fuerte compromiso organizacional en las dimensiones afectiva y normativa en las preparatorias públicas y privadas. Asimismo, se evidenció que las variables sociodemográficas (edad, hijos, antigüedad en el sector educativo, formación académica y nivel educativo) influyen directamente en su grado de compromiso. Se sugiere, por tanto, diseñar estrategias para incrementar el compromiso calculado (apego material) de los empleados, tales como bonos económicos, premios por puntualidad y asistencia, sistemas de jubilación adicionales a los establecidos por la ley y otros que impacten positivamente en sus finanzas.

**Palabras clave:** educación media superior, docentes, modelo de Meyer y Allen, personal administrativo.

### **Abstract**

The aim of this research was to develop a model to manage the organizational commitment in public and private high school teachers' of the Higher Education Department of the Government State in Chihuahua. The model was based on the results of a non-experimental, descriptive, correlational and cross-sectional study. We administered 618 surveys in 174 public and private High Schools (29.1% administrative employees and 70.9% teachers). Data were analyzed with the SPSS® software using descriptive statistics, the "t of student" test, ANOVA and Pearson correlations. The main results revealed the existence of a strong organizational commitment of teachers and administrative employees to their schools, mainly in the affective dimension. We identified that the sociodemographic variables that influence the commitment degree of workers, such as age, if they have children, seniority in the education sector, academic education and educational level, increases the affective and calculated commitment (material attachment) of the employees such as economic bonuses, stimulus for punctuality and assistance, retirement and other legal benefits, that would increase in their incomes.

**Keywords:** education, teachers, Meyer and Allen model, office staff.

## Resumo

Esta pesquisa tem como objetivo desenvolver um modelo proposto para o gerenciamento de comprometimento organizacional em escolas públicas e privadas Superior Secundário Departamento do Estado de Chihuahua Educação. Para este fim, foi baseada na abordagem multidimensional para comprometimento organizacional (Meyer Allen, 1991), pois isso permite estudo do afetivo e regulamentos dimensão calculados. Através de um cross-correlacional nenhum estudo experimental, uma pesquisa por conveniência 618 174 funcionários públicos e privados elevada (29,1% e 70,9% professores administrativas) foi administrada. Os dados foram analisados com o pacote SPSS, utilizando-se estatística descritiva, teste t de Student, ANOVA e correlações de Pearson. Os resultados demonstraram um forte comprometimento organizacional nas dimensões afetiva e normativa das escolas públicas e privadas de ensino médio. Ele também tornou-se evidente que as variáveis sociodemográficas (idade, as crianças idade na educação, formação e formação acadêmica) influenciam directamente o seu compromisso. Sugere-se, portanto, desenvolver estratégias para aumentar o compromisso calculado (apego material) dos empregados, como bônus financeiros, prêmios de pontualidade e assiduidade, além daquelas estabelecidas pelos regimes de pensões de direito e outros que têm um impacto positivo em suas finanças .

**Palavras-chave:** ensino médio, professores, modelo de Meyer e Allen, equipe administrativa.

**Fecha Recepción:** Diciembre 2017

**Fecha Aceptación:** Julio 2018

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## Introduction

In the current global economic context, organizational commitment (understood as the linkage and correspondence between the personal objectives of the workers and the productive goals of an institution) is one of the determining factors to drive the development of companies (Bayona, Goñi and Madorrán, 2000), since this variable directly influences the attitudes, behaviors and level of performance of employees (Betanzos and Paz, 2007, Robbins and Judge, 2009). This is demonstrated particularly in the educational field, a space where a solid organizational

commitment is required to carry out the various responsibilities related, mainly, with the academic training of the people (Day, 2008).

For this reason, and due to the few studies that can be found on this subject in Latin America -and especially in Mexico-, the present investigation focused on the study of the organizational commitment of the teaching and administrative staff of institutions of the Department of Higher Education. of the State of Chihuahua (DEMSECH), dependency where one of the thirteen educational subsystems of the upper middle level of said state is managed. This entity was chosen because it has been verified that there are no data or strategies that help to increase the organizational commitment of the teaching and administrative staff that works in that subsystem. Therefore, efforts have also been made to develop an organizational commitment management model that will strengthen the human capital of these institutions, which will have a positive impact on the functioning and quality of education (Barraza and Acosta, 2008).

For this, it has been considered to study the organizational commitment construct based on the three-dimensional approach (O'Reilly and Chatman, 1986), which has become one of the most important for that purpose (Gallardo, 2008, Solinger, van Olffen and Roe, 2008). Specifically, the model of Meyer and Allen (1984, 1990, 1991, 1997) has been chosen, which divides the organizational commitment into three stages: one affective, one normative and another calculated or continuity. Affective commitment "refers to the emotional bonding of employees, identification with, and participation in the organization. Employees with a strong emotional commitment continue to work with the organization because they want to do so "(Meyer and Allen, 1991, p.67). This component serves as a powerful predictor of highly desired work behaviors, and manifests itself in different attitudes of the worker, such as a marked pride in belonging to the organization or a high degree of solidarity and identification with the values of the institution. In colloquial terms, it is the "love for the shirt" (Arciniega, 2013).

The normative commitment, on the other hand, is linked to "a feeling of obligation to continue with employment. Employees with a high level of normative commitment feel that they should remain with the organization "(Meyer and Allen, 1991, p.67). A "this dimension is also known as moral commitment, since it refers to the moral obligation of employees to remain in the organization" (Gallardo, 2008, p. 5).

For Betanzos and Paz (2011) the normative component is associated with the duty to comply with the rules and labor policies of an organization. This is a value acquired and fostered in the family, hence it can be considered as part of the personality of the individual. This, therefore, leads the worker to experience a sense of debt with the organization for having given him some opportunity or reward, which is highly valued. In this regard, Meyer and Allen (1991) consider that the normative commitment is developed when an organization provides the employee with various types of rewards related, for example, with job training or with the payment of the tuition of the children. These received benefits create a moral link between the employee and the organization, which expresses itself as loyalty and permanence, even when having better opportunities elsewhere.

Finally, the calculated commitment or continuity, "refers to an awareness of the cost associated with leaving the organization. Employees whose primary link with the organization is based on the continuity commitment remain because they need to do so "(Meyer and Allen, 1991, p.67). This component, therefore, focuses on a bond of an instrumental nature based on the need to remain, because it takes into account not only the costs of leaving the organization (eg, losing seniority, benefits, autonomies, among others), but also the lack of work alternatives (Barresi, 2015).

Having explained the above, we can point out the hypotheses that constituted the guide of the present investigation:

- H1: The teaching and administrative staff of private high schools has a greater degree of organizational commitment than the teaching and administrative staff of public high schools.
- H2: The calculated dimension of organizational commitment has a greater presence in the teaching and administrative staff of public high schools.
- H3: The normative dimension of organizational commitment has less presence in the teaching and administrative staff of public high schools.
- H4: The affective dimension of organizational commitment has a greater presence in the teaching and administrative staff of private high schools.
- H5: The calculated dimension of organizational commitment has less presence in the teaching and administrative staff of private high schools.
- H6: There are sociodemographic variables that significantly influence the organizational

commitment of the teaching and administrative staff of public and private preparatory schools.

## Method

To fulfill the objectives of this study, the quantitative methodology was used, which uses data collection to test hypotheses based on numerical measurement and statistical analysis. Likewise, we worked with a non-experimental, cross-sectional, descriptive and correlational design (Hernández, Fernández and Baptista, 2014).

### Universe size and unit of analysis

According to the Department of Higher Secondary Education of Chihuahua, in this educational subsystem there are 174 secondary schools (21 public and 153 private, attended by a total of 3277 people: 2233 teachers and 1044 administrative staff). These institutions are located in the following regions of the state: Cuauhtémoc, San Juanito, Casas Grandes, Cd. Juárez, Chihuahua, Delicias and Parral. For this study, however, only 12 public and 28 private high schools were selected (table 1).

**Tabla 1.** Muestra de preparatorias públicas y privadas

| Categoría              | Población  | Tamaño de la muestra | Porcentaje respecto a cada categoría | Porcentaje respecto al total de la muestra |
|------------------------|------------|----------------------|--------------------------------------|--|
| Preparatorias públicas | 21         | 12                   | 57.1                                 | 6.9  |
| Preparatorias privadas | 153        | 28                   | 18.3                                 | 16.0                                       |
| <b>Total</b>           | <b>174</b> | <b>40</b>            |                                      | <b>22.9</b>                                |

Fuente: Elaboración propia a partir de los datos del DEMSCH (2016)

### Sample size and sampling

Due to the fact that in some institutions there is certain information that is considered confidential, it was decided to implement a non-probabilistic sampling for convenience. As a result, the total sample size of the teaching and administrative staff was 618 workers, of which 438 (70.9%) corresponded to the teaching staff and 180 (29.1%) to the administrative staff of the high schools that agreed to participate (table 2).



**Tabla 2.** Muestra del personal docente y administrativo

| Categoría               | Población   | Tamaño de la muestra | Porcentaje respecto a cada categoría | Porcentaje respecto al total de la muestra |
|-------------------------|-------------|----------------------|--------------------------------------|--|
| Personal docente        | 2233        | 438                  | 19.6                                 | 13.3                                       |
| Personal administrativo | 1044        | 180                  | 17.2                                 | 5.5  |
| <b>Total</b>            | <b>3277</b> | <b>618</b>           |                                      | <b>18.8 %</b>                              |

Fuente: Elaboración propia a partir de los datos del DEMSCH (2016)

### Design of the measuring instrument

For this work, the Questionnaire on the Attributes of the Organization (CATO) proposed by Meyer and Allen (1990) and validated by De Frutos, Ruiz and San Martín (1998) was selected. These latter authors not only consider the construct organizational commitment as a multifaceted concept based on the three dimensions already mentioned (affective, normative and continuity), but also provide evidence of the discriminant validity between these stages, through an exploratory factor analysis . For these authors, the internal consistency (Cronbach's alpha) obtained by Allen and Meyer (1990) of the items was as follows: 0.87 for the affective commitment scale, 0.75 for the continuity commitment scale and 0.79 for the normative commitment scale .

The organizational commitment questionnaires have been applied in Mexican populations by Arias, Belausteguigoitia and Uribe, cited by Edel, García and Casiano (2007), with robust results. The instrument's response category was a five-option Likert scale (1 = total disagreement and 5 = total agreement). The questionnaire was made up of 21 items: from 1 to 7 focused on the affective commitment, from 8 to 13 in the normative commitment and from 14 to 21 in the calculated commitment.

The collection of primary information was obtained through a self-administered survey of the teaching and administrative staff of the 40 public and private high schools selected. Also, through an office of the Department of Higher Education, in June 2016 permission was requested to distribute them to the school inspectors of each region and, secondly, to the directors of the high schools chosen to be applied to the teaching staff and administrative at your expense. Once answered, the school inspectors collected them and transferred them by courier to the Department of Higher Secondary Education, where the researcher collected them for editing and capture.

## **Analysis of data**

Data analysis was performed using the statistical package SPSS (Statistical Package for Social Sciences), version 24. Descriptive statistics were obtained, Student's t test for independent samples applied to variables of two groups, analysis of variance (ANOVA) for variables greater than two groups and Pearson correlation in order to establish the degree of association of different variables.

## **Results**

### **Sociodemographic profile**

The sample included men (44.5%) and women (54.7%), aged between 21 and 50 years (80.4%), mainly married (58.3%), with educational level between bachelor's and master's degrees (79.1%), who had between 5 and 10 years of experience in the education sector (51.2%), with a full-time contract (51.1%) and mainly working in a single institution (75.2%) (table 3).



**Tabla 3.** Perfil sociodemográfico de los encuestados en las escuelas preparatorias públicas y privadas

| Característica                                    | Frecuencia | Porcentaje (%) |
|---|------------|----------------|
| <b>Tipo de empleado</b>                           |            |                |
| Personal docente                                  | 438        | 70.9           |
| Personal administrativo                           | 180        | 29.1           |
| <b>Género</b>                                     |            |                |
| Femenino  | <b>338</b> | <b>54.7</b>    |
| Masculino   | 275        | 44.5           |
| No especificó                                     | 5          | 0.8            |
| <b>Edad</b>                                       |            |                |
| De 20 años o menos                                | 6          | 0.9            |
| De 21 a 30 años                                   | 131        | 21.2           |
| De 31 a 40 años                                   | <b>189</b> | <b>30.6</b>    |
| De 41 a 50 años                                   | <b>177</b> | <b>28.6</b>    |
| De 51 a 60 años                                   | 99         | 16             |
| Más de 60 años                                    | 9          | 1.5            |
| No especificó                                     | 7          | 1.2            |
| <b>Estado Civil</b>                               |            |                |
| Soltero(a)  | 158        | 25.5           |
| Casado(a)   | <b>360</b> | <b>58.3</b>    |
| Unión libre                                       | 30         | 4.9            |
| Divorciado(a)                                     | 28         | 4.5            |
| Viudo(a)  | 13         | 2.1            |
| Separado(a)                                       | 14         | 2.3            |
| No especificó                                     | 15         | 2.4            |
| <b>Nivel educativo</b>                            |            |                |
| Bachillerato o nivel técnico                      | 85         | 13.8           |
| Licenciatura                                      | <b>337</b> | <b>54.5</b>    |
| Maestría  | 152        | 24.6           |
| Doctorado   | 6          | 1.0            |
| No especificó                                     | 38         | 6.1            |
| <b>Formación académica</b>                        |            |                |
| Normalista  | 103        | 16.7           |
| Universitaria                                     | <b>382</b> | <b>61.8</b>    |
| Ambas   | 26         | 4.2            |
| No especificó                                     | 107        | 17.3           |
| <b>Años de experiencia en el sector educativo</b> |            |                |
| 5 años o menos                                    | <b>192</b> | <b>31.1</b>    |
| De 6 a 10 años                                    | <b>124</b> | <b>20.1</b>    |
| De 11 a 15 años                                   | 77         | 12.5           |
| De 16 a 20 años                                   | 59         | 9.5            |
| De 21 a 25 años                                   | 82         | 13.3           |
| De 26 a 30 años                                   | 34         | 5.5            |
| Más de 30 años                                    | 25         | 4.0            |
| No especificó                                     | 25         | 4.0            |
| <b>Categoría de contrato</b>                      |            |                |
| Por horas   | 254        | 41.1           |
| Tiempo completo                                   | <b>316</b> | <b>51.1</b>    |
| Otra  | 30         | 4.9            |
| No especificó                                     | 18         | 2.9            |
| <b>Número de instituciones en las que labora</b>  |            |                |
| Una   | <b>465</b> | <b>75.2</b>    |
| Dos   | 108        | 17.5           |
| Tres  | 16         | 2.6            |
| Cuatro o más                                      | 9          | 1.5            |
| No especificó                                     | 20         | 3.2            |

Fuente: Elaboración propia

### Scale of intensity for organizational commitment

Based on the descriptive analysis, the following scale of intensity of the organizational commitment of the teaching and administrative staff was obtained. When the result of each dimension (affective, normative or calculated) is from 1 to 33, it means that the level of commitment to the organization is weak. On the other hand, when it is from 34 to 66, it means that the commitment is moderate, whereas when it is equal to or greater than 67, the commitment is strong (table 4).

**Tabla 4.** Baremo de intensidad para el compromiso organizacional

| Rango    | Intensidad del compromiso organizacional |
|----------|--|
| 1 a 33   | Débil                                    |
| 34 a 66  | Moderado                                 |
| 67 a 100 | Fuerte                                   |

Fuente: Elaboración propia

### Degree of organizational commitment per item

The items of the affective dimension of organizational commitment that presented a high degree were the following: "I am proud to work in this school" (89.1%) and "Working in this school means a lot to me" (88.3%), while the Items that showed a low degree of commitment in the calculated dimension were these: "Right now I work in this school more because I need it because I want to," with 45.9% and "I could leave this job even if I have no other in sight" 48.3% (table 5).

**Tabla 5.** Grado de compromiso organizacional por ítem

| Ítem   | Dimensión del compromiso | Porcentaje  |
|--|--------------------------|-------------|
| 1. Me gustaría continuar el resto de mi carrera profesional en esta escuela.                                   | Afectivo                 | 81.3        |
| 2. Siento, de verdad, que cualquier problema en esta escuela es también mi problema.                           | Afectivo                 | 80.5        |
| 3. Trabajar en esta escuela significa mucho para mí.   | Afectivo                 | <b>88.3</b> |
| 4. En esta escuela me siento como en familia.  | Afectivo                 | 81.7        |
| 5. Estoy orgulloso(a) de trabajar en esta escuela.   | Afectivo                 | <b>89.1</b> |
| 6. Me siento emocionalmente unido(a) a esta escuela.   | Afectivo                 | 84.4        |
| 7. Me siento parte integrante de esta escuela.   | Afectivo                 | <b>86.3</b> |
| 8. Creo que no estaría bien dejar de trabajar en esta escuela aunque me vaya a beneficiar en el cambio.        | Normativo                | 68.2        |
| 9. Creo que debo mucho a esta escuela.   | Normativo                | 77.0        |
| 10. Esta escuela se merece mi lealtad.   | Normativo                | <b>86.5</b> |
| 11. Me siento comprometido(a) para seguir trabajando en esta escuela.  | Normativo                | 83.5        |
| 12. Me sentiría culpable si ahora dejara esta escuela.   | Normativo                | 64.9        |
| 13. Creo que no podría dejar esta escuela porque siento que tengo una obligación con la gente de aquí.         | Normativo                | 68.0        |
| 14. Si continúo en esta escuela es porque en otra no tendría las mismas ventajas y beneficios que recibo aquí. | Calculado                | 60.6        |
| 15. Aunque quisiera, sería muy difícil para mí dejar este trabajo ahora mismo                                  | Calculado                | 69.9        |
| 16. Una de las desventajas de dejar esta escuela es que hay pocas posibilidades de encontrar otro empleo.      | Calculado                | 59.0        |
| 17. Si ahora decidiera dejar esta escuela, muchas cosas en mi vida personal se verían interrumpidas.           | Calculado                | 63.0        |
| 18. En este momento, dejar esta escuela supondría un gran costo para mí.                                       | Calculado                | 64.5        |
| 19. Creo que si dejara esta escuela no tendría muchas opciones de encontrar otro trabajo.                      | Calculado                | 53.3        |
| 20. Ahora mismo trabajo en esta escuela más porque lo necesito que porque yo quiera.                           | Calculado                | <b>45.9</b> |
| 21. Podría dejar este trabajo aunque no tenga otro a la vista.   | Calculado                | <b>48.3</b> |

Fuente: Elaboración propia

### Level of intensity of each dimension of organizational commitment

According to the intensity scale, those corresponding to the affective dimension were the highest (table 6). That is to say, in the preparatory schools studied, affective and normative commitment prevails "strongly", while the calculated one has a weak presence.

**Tabla 6.** Nivel de intensidad de cada dimensión del compromiso organizacional

| Dimensión del compromiso organizacional | %    | Categoría |
|---|------|-----------|
| Afectiva                                | 84.5 | Fuerte    |
| Normativa                               | 74.7 | Fuerte    |
| Calculada                               | 58.1 | Moderado  |

Fuente: Elaboración propia

### **Influence of sociodemographic variables on the dimensions of organizational commitment**

The variables that influenced the affective commitment of the respondents were age, seniority in the education sector and level of schooling. On the other hand, the variables that had a significant influence on employees' moral commitment (normative dimension) were age, contract category, seniority in the education sector and academic training. This means that the older and older there is more emotional attachment, such as the moral obligation to remain in high schools. Regarding the calculated dimension, the associated cost of leaving the organization was greater when the workers had children, when the age increased or when they were teaching or administrative staff (table 7).

**Tabla 7.** Influencia de las variables sociodemográficas sobre las dimensiones del compromiso organizacional

| Dimensión del compromiso organizacional | D/A | G   | E   | H   | CC  | EC  | ASE | NE  | FA  | IL  |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Afectiva                                | .30 | .15 | .00 | .14 | .09 | .77 | .00 | .00 | .11 | .84 |
| Normativa                               | .83 | .06 | .00 | .32 | .03 | .78 | .00 | .08 | .03 | .26 |
| Calculada                               | .00 | .57 | .04 | .02 | .25 | .56 | .08 | .14 | .25 | .37 |

Fuente: Elaboración propia

D/A = docente/administrativo; G = género; E = edad; H = tiene hijos; CC = categoría de contrato; EC = estado civil; ASE = antigüedad en el sector educativo; NE = nivel educativo; FA = formación académica; IL = instituciones en las que labora.

### **Influence of sociodemographic variables on organizational commitment**

As a summary, the variables that had a more significant relationship with the global organizational commitment were age, children, seniority in the education sector and academic training (table 8).

**Tabla 8.** Influencia de las variables sociodemográficas sobre el compromiso organizacional

|                                  | D/A | G   | E   | H   | CC  | EC  | ASE | NE  | FA  | IL  |
|----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>Compromiso organizacional</b> | .33 | .31 | .00 | .03 | .35 | .64 | .00 | .30 | .04 | .95 |

Fuente: Elaboración propia

D/A = docente/administrativo; G = género; E = edad; H = tiene hijos; CC = categoría de contrato; EC = estado civil; ASE = antigüedad en el sector educativo; NE = nivel educativo; FA = formación académica; IL = instituciones en las que labora.

### Tests of independent samples with Student's t-test and ANOVAS to show differences in organizational commitment

To determine if there were significant differences in the degree of organizational commitment between public and private high schools, the Student t test was used for independent samples applied to the variables of two groups. Also, the analysis of variance (ANOVA) for variables greater than two groups allowed to determine the degree of organizational commitment by dimension (affective, normative and calculated) in public and private high schools. Additionally, the organizational commitment by regions in the state of Chihuahua was calculated.

### Organizational commitment between public and private preparatory schools

The average level of organizational commitment was 3.53 in public high schools and 3.58 in private high schools, so it is assumed that there are no significant differences, that is, there are similarities in the degree of organizational commitment between both types of schools (table 9).

**Tabla 9.** Estadística de grupo de preparatorias públicas y privadas en relación con el compromiso organizacional

| Tipo de institución | N  | Media | Desviación estándar | Media de error estándar |
|---------------------|----|-------|---------------------|-------------------------|
| Pública             | 21 | 3.533 | .6529               | .1425                   |
| Privada             | 21 | 3.581 | .6749               | .1473                   |

Fuente: Elaboración propia

Using the Student's t-test, it was evidenced that there is an associated significance of .818, which is greater than 0.05. This means that there are no significant differences in the degree of organizational commitment between public and private high schools (table 10).

**Tabla 10.** Prueba de muestras independientes de preparatorias públicas y privadas en relación con el compromiso organizacional

|                                | Prueba de Levene para varianzas iguales |             |              | Prueba t de Student para medias iguales |                  |                      |                              |   |       |
|--------------------------------|---|-------------|--------------|---|------------------|----------------------|------------------------------|---|-------|
|                                | F                                       | Sig.        | t            | Gl                                      | Sig. (bilateral) | Diferencia de medias | Diferencia de error estándar | 95 % de intervalo de confianza de la diferencia Inf. Sup. |       |
| Se asumen varianzas iguales    | .059                                    | <b>.810</b> | <b>-.231</b> | 40                                      | <b>.818</b>      | -.047                | .204                         | -.461   | -.366 |
| No se asumen varianzas iguales |   |             | -.231        | 39.95                                   | .819             | -.047                | .204                         | -.461   | -.366 |

Fuente: Elaboración propia

### Dimensions of organizational commitment in public high schools

The ANOVA test for samples larger than two groups showed significant differences (level = 0.00) in the degrees of commitment by dimension (affective, normative and calculated), in the 12 public high schools (table 11).

**Tabla 11.** ANOVA para dimensiones del compromiso organizacional en preparatorias públicas

|                  | Suma de cuadrados | gl | Media cuadrática | F      | Sig.        |
|------------------|-------------------|----|------------------|--------|-------------|
| Entre grupos     | 5.621             | 2  | 2.811            | 17.412 | <b>.000</b> |
| Dentro de grupos | 2.905             | 18 | .161             |        |             |
| Total            | 8.527             | 20 |                  |        |             |

Fuente: Elaboración propia

In public high schools there is a significant difference between the affective dimension and the calculated one (level of significance = .000), as well as between the normative dimension and the calculated one (level of significance = .011), both levels lower than 0.05 (table 12).

**Tabla 12.** Nivel de significación del compromiso organizacional por dimensión en las preparatorias públicas

**Variable dependiente: preparatorias públicas**  
**HSD Tukey**

| (I)Dim.<br>Comp. | (J)Dim.<br>Comp. | Diferencia<br>de medias<br>(I-J) | Error<br>estándar | Intervalo de confianza de 95 % |                    |                    |
|------------------|------------------|----------------------------------|-------------------|--------------------------------|--------------------|--------------------|
|                  |                  |                                  |                   | Sig.                           | Límite<br>inferior | Límite<br>superior |
| 1                | 2                | .50952                           | .22352            | .085                           | -.0609             | 1.0800             |
|                  | 3                | 1.21786*                         | .20793            | .000                           | .6872              | 1.7485             |
| 2                | 1                | .50952                           | .22352            | .085                           | -1.0800            | .0609              |
|                  | 3                | .70833*                          | .21698            | .011                           | .1546              | 1.2621             |
| 3                | 1                | 1.21786*                         | .20793            | .000                           | -1.7485            | -.6872             |
|                  | 2                | .70833*                          | .21698            | .011                           | -1.2621            | -.1546             |

Fuente: Elaboración propia

1 = dimensión afectiva; 2 = dimensión normativa; 3 = dimensión calculada; I = dimensión del compromiso; J = dimensión del compromiso.

In this same profile of schools, the degree of organizational commitment of the teaching and administrative staff in the affective dimension was 4.14, in the normative dimension of 3.63 and in the calculated dimension of 2.92 (table 13).

**Tabla 13.** Grado del compromiso organizacional por dimensión en preparatorias públicas

| Dimensión del compromiso | N | Subconjunto para alfa = .05 |        |
|--------------------------|---|-----------------------------|--------|
|                          |   | 1                           | 2      |
| 3                        | 8 | 2.9250                      |        |
| 2                        | 6 |                             | 3.6333 |
| 1                        | 7 |                             | 4.1429 |
| Sig.                     |   | 1.000                       | .073   |

Fuente: Elaboración propia

1 = dimensión afectiva; 2 = dimensión normativa; 3 = dimensión calculada; N = número de ítems por dimensión del compromiso.



### Dimensions of organizational commitment in private high schools

The analysis of the ANOVA variance for samples larger than two groups resulted in a significant difference between groups (level of significance = 0.00) within the dimensions of organizational commitment (affective, normative and calculated) in the 28 private high schools analyzed ( table 14).

**Tabla 14.** ANOVA para dimensiones del compromiso organizacional en preparatorias privadas

|                  | Suma de cuadrados | gl | Media cuadrática | F      | Sig.        |
|------------------|-------------------|----|------------------|--------|-------------|
| Entre grupos     | 6.713             | 2  | 3.357            | 25.210 | <b>.000</b> |
| Dentro de grupos | 2.397             | 18 | .133             |        |             |
| Total            | 9.110             | 20 |                  |        |             |

Fuente: Elaboración propia

In this same type of high school a significant difference was found between the affective dimension and the calculated dimension (level of significance = 0.000), as well as between the normative dimension and the calculated one (level of significance 0.011); both lower than the established threshold of 0.05 (table 15).

**Tabla 15.** Nivel de significación del compromiso organizacional por dimensión en las preparatorias privadas

| Intervalo de confianza de 95 % |               |                            |                |             |                 |                 |
|--------------------------------|---------------|----------------------------|----------------|-------------|-----------------|-----------------|
| (I)Dim. Comp.                  | (J)Dim. Comp. | Diferencia de medias (I-J) | Error estándar | Sig.        | Límite inferior | Límite superior |
| 1                              | 2             | .49124                     | .20301         | .065        | -.0269          | 1.0093          |
|                                | 3             | 1.32131*                   | .18885         | <b>.000</b> | .8393           | 1.8033          |
| 2                              | 1             | .49124                     | .20301         | .065        | -1.0093         | .0269           |
|                                | 3             | .83007*                    | .19706         | <b>.001</b> | .3271           | 1.3330          |
| 3                              | 1             | -1.32131*                  | .18885         | <b>.000</b> | -1.8033         | -.8393          |
|                                | 2             | -.83007*                   | .19706         | <b>.001</b> | -1.3330         | -.3271          |

Fuente: Elaboración propia

1 = dimensión afectiva; 2 = dimensión normativa; 3 = dimensión calculada; I = dimensión del compromiso; J = dimensión del compromiso.

For private schools, the degree of commitment of the teaching and administrative staff in the affective dimension was 4.22, in the normative dimension of 3.73 and in the calculated dimension of 2.90, figures very similar to those of public schools (table 16).

**Tabla 16.** Grado de compromiso organizacional por dimensión en preparatorias privadas

| Dimensión del compromiso | N | 1      | 2      |
|--------------------------|---|--------|--------|
| 3                        | 8 | 2.9031 |        |
| 2                        | 6 |        | 3.7331 |
| 1                        | 7 |        | 4.2244 |
| Sig.                     |   | 1.000  | .055   |

Fuente: Elaboración propia

1 = dimensión afectiva; 2 = dimensión normativa; 3 = dimensión calculada; N = número de ítems por dimensión del compromiso.

### Organizational commitment by regions in the state of Chihuahua

At the state level, the Parral region presented the highest degree of organizational commitment with 3.87 in its average, while the Casas Grandes region had the lowest degree of organizational commitment with 3.47 (table 17).

**Tabla 17.** Grado de compromiso organizacional por regiones en el estado de Chihuahua

| Región | N  | Media  | Desviación estándar | Error estándar | Límite inferior | Límite superior | Mínimo | Máximo |
|--------|----|--------|---------------------|----------------|-----------------|-----------------|--------|--------|
| 1      | 9  | 3.6556 | .33208              | .11069         | 3.4003          | 3.9108          | 3.10   | 4.20   |
| 2      | 3  | 3.6667 | .20817              | .12019         | 3.1496          | 4.1838          | 3.50   | 3.90   |
| 3      | 4  | 3.4750 | .09574              | .04787         | 3.3227          | 3.6273          | 3.40   | 3.60   |
| 4      | 4  | 3.5500 | .31091              | .15546         | 3.0553          | 4.0447          | 3.30   | 4.00   |
| 5      | 12 | 3.5083 | .26097              | .07534         | 3.3425          | 3.6741          | 3.20   | 4.00   |
| 6      | 4  | 3.8500 | .45092              | .22546         | 3.1325          | 4.5675          | 3.30   | 4.40   |
| 7      | 4  | 3.8750 | .27538              | .13769         | 3.4368          | 4.3132          | 3.60   | 4.20   |
| Total  | 40 | 3.6250 | .30445              | .04814         | 3.5276          | 3.7224          | 3.10   | 4.40   |

Fuente: Elaboración propia

1 = Cuauhtémoc; 2 = San Juanito; 3 = Casas Grandes; 4 = Ciudad Juárez; 5 = Chihuahua; 6 = Delicias; 7 = Parral.

The ANOVA test showed that there is an associated significance of .232, which is greater than 0.05. This means that in all the studied regions of the state of Chihuahua there are similar degrees of organizational commitment (tables 18 and 19).

**Tabla 18.** Prueba ANOVA por regiones en el estado de Chihuahua

|                  | Suma de<br>cuadrados | gl | Media<br>cuadrática | F     | Sig. |
|------------------|----------------------|----|---------------------|-------|------|
| Entre grupos     | .742                 | 6  | .124                | 1.420 | .236 |
| Dentro de grupos | 2.873                | 33 | .087                |       |      |
| Total            | 3.615                | 39 |                     |       |      |

Fuente: Elaboración propia

**Tabla 19.** Nivel de significación del compromiso organizacional por regiones en el estado de Chihuahua

| (I) CodifRegi | (J) CodifRegi | Diferencia de<br>medias (I-J) | Error estándar | Sig.  | Intervalo de confianza de 95 %<br>Límite inferior Límite superior |       |
|---------------|---------------|-------------------------------|----------------|-------|---|-------|
| 1             | 2             | -.01111                       | .19671         | 1.000 | -.6282  | .6060 |
|               | 3             | .18056                        | .17731         | .946  | -.3757  | .7368 |
|               | 4             | .10556                        | .17731         | .997  | -.4507  | .6618 |
|               | 5             | .14722                        | .13011         | .914  | -.2609  | .5554 |
|               | 6             | -.19444                       | .17731         | .925  | -.7507  | .3618 |
|               | 7             | -.21944                       | .17731         | .874  | -.7757  | .3368 |
| 2             | 1             | .01111                        | .19671         | 1.000 | -.6060  | .6282 |
|               | 3             | .19167                        | .22536         | .977  | -.5153  | .8986 |
|               | 4             | .11667                        | .22536         | .998  | -.5903  | .8236 |
|               | 5             | .15833                        | .19046         | .980  | -.4392  | .7558 |
|               | 6             | -.18333                       | .22536         | .982  | -.8903  | .5236 |
|               | 7             | -.20833                       | .22536         | .966  | -.9153  | .4986 |
| 3             | 1             | -.18056                       | .17731         | .946  | -.7368  | .3757 |
|               | 2             | -.19167                       | .22536         | .977  | -.8986  | .5153 |
|               | 4             | -.07500                       | .20864         | 1.000 | -.7295  | .5795 |
|               | 5             | -.03333                       | .17035         | 1.000 | -.5677  | .5011 |
|               | 6             | -.37500                       | .20864         | .559  | -1.0295   | .2795 |
|               | 7             | -.40000                       | .20864         | .484  | -1.0545   | .2545 |
| 4             | 1             | -.10556                       | .17731         | .997  | -.6618  | .4507 |
|               | 2             | -.11667                       | .22536         | .998  | -.8236  | .5903 |
|               | 3             | .07500                        | .20864         | 1.000 | -.5795  | .7295 |
|               | 5             | .04167                        | .17035         | 1.000 | -.4927  | .5761 |
|               | 6             | -.30000                       | .20864         | .778  | -.9545  | .3545 |
|               | 7             | -.32500                       | .20864         | .709  | -.9795  | .3295 |
| 5             | 1             | -.14722                       | .13011         | .914  | -.5554  | .2609 |
|               | 2             | -.15833                       | .19046         | .980  | -.7558  | .4392 |
|               | 3             | .03333                        | .17035         | 1.000 | -.5011  | .5677 |
|               | 4             | -.04167                       | .17035         | 1.000 | -.5761  | .4927 |

|   |   |         |        |       |        |        |
|---|---|---------|--------|-------|--------|--------|
|   | 6 | -.34167 | .17035 | .430  | -.8761 | .1927  |
|   | 7 | -.36667 | .17035 | .348  | -.9011 | .1677  |
| 6 | 1 | .19444  | .17731 | .925  | -.3618 | .7507  |
|   | 2 | .18333  | .22536 | .982  | -.5236 | .8903  |
|   | 3 | .37500  | .20864 | .559  | -.2795 | 1.0295 |
|   | 4 | .30000  | .20864 | .778  | -.3545 | .9545  |
|   | 5 | .34167  | .17035 | .430  | -.1927 | .8761  |
|   | 7 | -.02500 | .20864 | 1.000 | -.6795 | .6295  |
| 7 | 1 | .21944  | .17731 | .874  | -.3368 | .7757  |
|   | 2 | .20833  | .22536 | .966  | -.4986 | .9153  |
|   | 3 | .40000  | .20864 | .484  | -.2545 | 1.0545 |
|   | 4 | .32500  | .20864 | .709  | -.3295 | .9795  |
|   | 5 | .36667  | .17035 | .348  | -.1677 | .9011  |
|   | 6 | .02500  | .20864 | 1.000 | -.6295 | .6795  |

Fuente: Elaboración propia

1 = Cuauhtémoc; 2 = San Juanito; 3 = Casas Grandes; 4 = Ciudad Juárez; 5 = Chihuahua; 6 = Delicias; 7 = Parral.

### Testing of hypothesis

Based on the results presented in this research, the approval or rejection of the hypotheses proposed is established. Student's t test resulted in a significance level of .818 (table 10), so it is considered that there are no significant differences between the degree of organizational commitment of teaching and administrative staff in public and private high schools. Hypothesis one, therefore, is rejected.

On the other hand, the affective dimension had a greater presence in the teaching and administrative staff of public high schools (mean = 4.14) (table 13). Therefore, hypothesis two is rejected.

Likewise, the calculated dimension was the one that presented a lower degree of organizational commitment with an average of 2.92 (table 13). Therefore, hypothesis three is rejected.

Likewise, the affective dimension of organizational commitment in teaching and administrative staff had a greater presence in private preparatory schools (mean = 4.22) (table 16). Consequently, hypothesis four is approved.

In the calculated dimension of organizational commitment, there was less presence in the teaching and administrative staff of private high schools with an average of 2.90 (table 16). For this reason, hypothesis five is approved.

Finally, it can be said that four out of ten sociodemographic variables significantly influenced

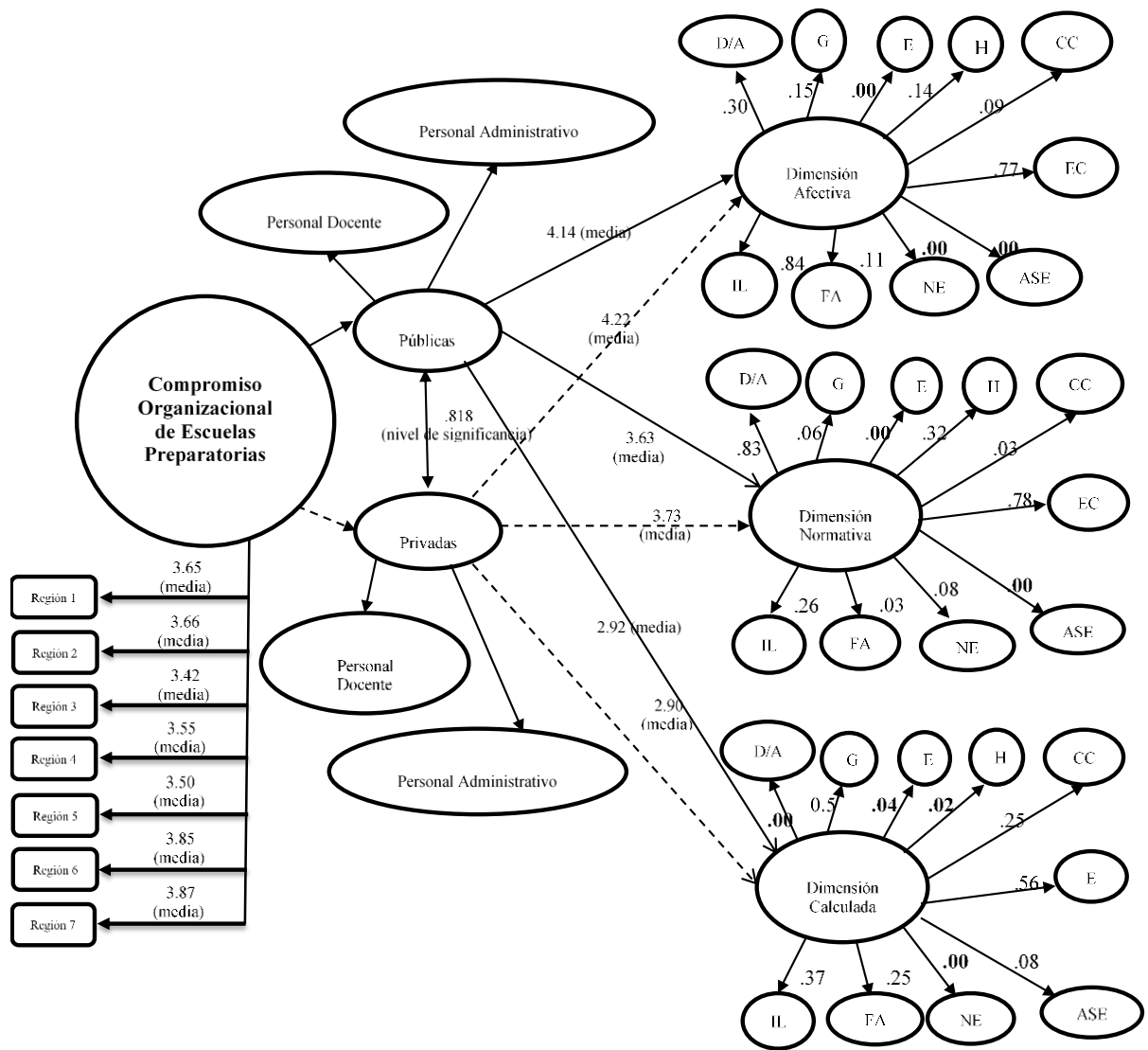
the organizational commitment of teaching and administrative staff of public and private preparatory schools, namely: age (.00), children (.03), seniority in the education sector (.00) and academic education (.04) (table 8). Therefore, hypothesis six is accepted.

## **Discussion and Conclusions**

The main contribution of this research is the development of an organizational commitment management model for public and private schools of the DEMSCH (figure 1). The model presents a diagnosis about the degree of commitment manifested by the workers of the educational subsystem of the DEMSCH. It shows that there is a strong level of organizational commitment, especially in the affective and normative dimension; This indicates that there is a high emotional attachment of employees to their educational centers, which can directly affect the permanence in their institutions by the sense of love and loyalty. This systemic model describes the directionality of the dimensions studied, elements for educational authorities to design relevant strategies to consolidate and increase the organizational commitment of the teaching and administrative staff of the various high schools of the DEMSCH.

Another reading of this model is that the organizational commitment experienced by the entire state of Chihuahua is very homogeneous, and this has allowed both public and private high schools to experience some stability with their teaching and administrative staff. This will surely strengthen academic performance as there is less turnover. It also allows us to visualize the importance of monitoring the three dimensions to maintain that commitment, particularly affective and normative; however, the calculated commitment must be strengthened.

**Figura 1.** Modelo general para gestionar el compromiso organizacional en las preparatorias públicas y privadas del DEMSCH



Fuente: Elaboración propia

1 = Cuauhtémoc; 2 = San Juanito; 3 = Casas Grandes; 4 = Ciudad Juárez; 5 = Chihuahua; 6 = Delicias; 7 = Parral.

D/A = docente/administrativo; G = género; E = edad; H = hijos; CC = categoría de contrato; EC = estado civil; ASE = antigüedad en el sector educativo; NE = nivel educativo; FA = formación académica; IL = instituciones en las que labora.

## **Recommendations**

Especially to the educational authorities of the public and private high schools of the DEMSCH, it is advised that from the proposed model strategies are developed to strengthen and increase the degree of organizational commitment in the teaching and administrative staff, taking into account in a particular way the variables that According to this study, the commitment of the employees is directly affected.

Likewise, it should be foreseen that according to the results of this investigation, employees who have children are more committed to their work centers. This variable has a significant impact on the commitment of workers, especially in the calculated dimension and in the regulations, for which it is recommended that the educational authorities of public and private schools implement actions that directly benefit children and parents.

It is also suggested to create spaces for nurseries in each public and private high school of the educational subsystem of the DEMSCH. In this way, parents will feel more committed to the organization, since they will be given the opportunity to have a more direct and immediate contact with their children.

Another action that can be implemented to help workers' children is to offer scholarships or discounts in tuition fees, since these benefits favor loyalty and permanence in the institution (Meyer and Allen, 1991). Likewise, it is recommended to take into account the training of employees, for which scholarships could also be granted that contribute to the professional development of teaching and administrative staff. Also, teach courses to demonstrate the interest felt by the organization for the training of workers. In the words of Meyer and Allen (1991), when organizations provide job training, a moral commitment is created between the employee and the institution.

Regarding the calculated commitment (which had less presence in the subjects studied), it is considered appropriate to create strategies aimed at increasing the degree of linkage in this dimension. In this regard, it should be noted that the variables age and seniority usually have a significant effect on the calculated commitment (Arciniega, 2002). In this regard, Álvarez (2008) mentions that there is a direct relationship between these two variables. The data from this study, in fact, revealed that the worker's seniority has a significant influence on the calculated commitment. In other words, if the calculated dimension refers to the material attachment of the



employee to the organization, it is assumed that the seniority of the workers is associated with certain types of benefits received from an economic nature. For this reason, it is suggested that organizations offer, for example, unexpected economic bonuses, prizes for punctuality and assistance, retirement systems in addition to those granted by law, as well as others that have a positive impact on workers' finances. If the teaching and administrative staff of the schools feel satisfied with the economic remunerations, they will not want to change jobs, which will generate a lower turnover rate in the schools.

Finally, it is necessary to monitor frequently the organizational commitment of the workers, for which the methodology used in the present investigation can be applied. In this way, permanent information could be obtained to generate relevant strategies in the management of the commitment.

Finally, for the academic community interested in carrying out studies linked to organizational commitment in their institutions, the following lines of research are open:

- Apply the methodology of this research to other geographic regions and educational contexts.
- Analyze the relationship of organizational commitment and job satisfaction.
- Study the relationship of organizational commitment with the empowerment of employees, their productivity and quality in education.
- Understand the relationship of organizational commitment, satisfaction and academic performance of students.
- Investigate the organizational commitment of the new generations, specifically the millennial.
- Study the relationship of neurosciences in the organizational commitment of employees.
- Know the relationship of the organizational culture with the commitment of human capital.

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