

Association of organizational climate variables with teacher and student management: Proposal of management models

Dr. Emilio Sagredo Lillo¹
Dr. Ricardo Castro Cáceres²

Abstract

Introduction. The environment in which people interact is essential for the achievement of objectives and goals. In organizations of all types, this environment is called climate. The study of the Organizational Climate concept has captivated the interest of several areas and has recently emerged as a relevant topic in research on educational communities. **Method.** The objective of this study is to determine the levels of association of organizational climate variables (commitment, satisfaction and motivation) of students and teachers with the perception of management. The population, scarcely studied before, is composed of students and teachers of Adult Regular Education Establishments in the Biobío Region, Chile. The sample consists of 358 students and 59 teachers. The research methodology is a multiple linear regression that seeks to generate a predictive model of variable grouping. **Results.** The results follow the trend of positive and significant correlation of organizational climate variables (commitment, motivation and satisfaction) and management, the predictive models suggest a different grouping of variables in both groups studied. **Discussion.** In general, the positive and significant correlation between the variables studied agrees with what has been found so far; however, the most significant and divergent aspect is that the students seem to be more motivated than the teachers with regard to the organizational climate management processes and the learning-teaching process. Teachers show adequate organizational commitment, but this is less related to their satisfaction and even less to their motivation.

Keywords: Ambiente escolar, investigación educativa, gestión y educación de adultos.

1. Introduction

Educational management well managed by educational leaders is considered key to the success of organizations and the achievement of learning proposed by educational institutions (Hargreaves and Fullan, 2014). According to the above, the figure of the principal is key in teacher performance (Maureira and Garay, 2019) and in the way they interact in the organization they are part of. Likewise, the leadership exercised by teachers is important in the performance of students (Sagredo and Castello, 2019).

The success and achievement of individual and organizational objectives depends to a large extent on the interaction that individuals experience in the different institutions or associations of which they may be part (Hargreaves and Fullan, 2014). This interaction forms each organization's own environment, an intangible but fundamental state, which is theoretically referred to as organizational climate (Chiavenato, 2001). Chiavenato refers to the fact that the organizational climate determines to a great extent the development, outcome and future projection of any type of association or institution.

In organizational psychology, the concept of climate is frequently used to refer to the environment. The small disquisition between environment and climate is that climate is more frequently used in organizations, associations and institutions (Chiavenato, 2001).

Organizations have an identity and good and/or bad characteristics that differentiate them from others, which is called organizational culture (Schein, 2010). The main difference between organizational culture and organizational climate is that the former is more or less stable and permanent and the latter is a continuous and momentary snapshot. It can change at every instant (Sagredo and Castello, 2019; Schein, 2010) and even more, it is through the climate that the organizational culture. What is mentioned offers an important value to this research. Management could determine the perception of climate and climate has a direct impact on organizational culture and success in the short and long term.

According to the theoretical and empirical review, it can be said that primary and secondary adult education has been little researched in general, even more so in Latin America. In the aforementioned target audience, no published or socialized research has been found either, linked to the organizational climate or the variables of management, motivation, commitment and satisfaction. There are practically no referents, so the present work is seen as a research contribution for andragogy in specific and in general for the whole educational area.

¹ Académico Departamento Fundamentos de la Pedagogía, Universidad Católica de la Santísima Concepción (UCSC), Chile. Grupo de investigación Alter-Kimün (GAK) UCSC. Agradecimientos a DI-FIAI 02/2021 UCSC.

² Académico Departamento Fundamentos de la Pedagogía, Universidad Católica de la Santísima Concepción (UCSC), Chile. Grupo de investigación Alter-Kimün (GAK) UCSC. Correo:

For an adequate theoretical and empirical approach to the following research, it is key to refer to managerial management and leadership, concepts used practically as synonyms by various authors (Hargreaves and Fullan, 2014; Hargreaves and Fink, 2006). However, there have been debates as to whether these concepts are two sides of the same concept or are totally different (Harris, 2008; Hargreaves and Fullan, 2014).

In educational management, leaders are not only used to refer to the usual image of leaders; management should be the task of the entire organization. A good leader must be able to identify different characteristics that can be effectively adapted or assembled with a particular situation or context. All members of the organizations can be potential leaders. It is for this reason that distributed leadership has taken so much prominence in recent times (Fullan, 2002; Lusquiños, 2019; Maureira and Garay, 2019).

The management of educational processes must be well designed and planned (Ngozi et al., 2015). This is to allow teachers and students to know what the organizational objectives to be achieved really are and also to feel confident that their leaders are supporting them and are fully involved in the process. Several authors mention that educational leaders and their management is key to the organizational success of educational institutions (Miranda, 2016; Ngozi, Jones and Prince, 2015).

It is necessary to understand that when speaking of organizational climate, it can also be understood as organizational environment. There are several researchers linked to the area of administrative management, who refer to climate or environment as two concepts as twin and indissoluble terms (Fullan, 2002; Harris, 2008; Leithwood and Mascall, 2009). It is difficult to believe that an organization can be successful when it is perceived as having a harmful or adverse climate.

Another variable of this research is motivation, it is difficult to refer to it without mentioning Maslow (1991) who views motivation as an integral part of human nature and is related to the satisfaction of needs. Chiavenato (2001) points out that the context and the specific moment in which an individual is living will determine his or her motivation levels.

According to psychology, there are extrinsic and intrinsic motivations that are appreciated in the subjects depending on the case (Atkinson and Shiffrin, 1968). Extrinsic motivation depends on rewards and obligations to face some action or task. Intrinsic motivation is related to psychological needs and to the personal liking to face a situation. This does not mean that the former is worse than the latter; some authors mention that both must be amalgamated for motivation to be lasting and stimulating (Ruiz et al., 2015).

The work of Sagredo and Castelló (2019) refers that, by providing incentives, it effectively contributes to the achievement of organizational objectives, which would be the product of an extrinsic motivation integrated with the needs of the individual. Timely and attentive recognition generates gratitude in people, this in turn contributes to the climate and sense of well-being which, in time, generates an intrinsic motivation that contributes to the work as collaborative and motivated professional communities (Hargreaves and Fullan, 2014).

Perceived satisfaction in organizations, and especially in educational organizations is paramount in the interaction of the entire community. Sun (2016) in Hong Kong found that schools that made an effort to develop social skills showed greater satisfaction in their students. That is why when talking about satisfaction in educational contexts, one should not think exclusively of teachers, and equally important is the satisfaction of students (Baños et al., 2017). There has been a tendency to investigate mainly teacher satisfaction.

It has been evidenced that the category motivation managed by leaders in the field of education (Ruiz et al., 2015), which were mainly related to professional development, contributes to teacher commitment and positively predicts satisfaction.

Active participation in the organization of which one is a part generates commitment. Köse (2016) found a relationship between support, participation and teacher organizational commitment. Kitratporn and Puncreobutr (2016) conclude that managerial planning and management are related to the perception of teachers' organizational climate. They also mention that teachers often do not want to take risks to get involved in management, for fear of failure and possible political and governmental reprisals or loss of previously acquired benefits.

In the study linked to the organizational environment, a high correlation was found between organizational climate and quality of work (Sotelo and Figueroa, 2017). These authors state that the more satisfied the members of an organization feel, the better their work is. They also point out that, for optimal teacher management, commitment, motivation and satisfaction must be fostered. In accordance with the above, Yassin et al. (2016) find that teaching performance is positively and significantly related to pedagogical performance, satisfaction and motivation.

There is a tendency for teachers to feel more motivated and satisfied when their work is more successful and objectives are achieved. Related research has found a positive and significant relationship between teacher satisfaction and self-efficacy and job satisfaction (Aldridge and Fraser, 2016). Therefore, it is essential for managers to find a way to communicate to teachers that they are performing their tasks appropriately when the situation warrants it.

Researchers Akram et al. (2015) continue the trend of finding positive and significant relationship between job satisfaction and competencies; competencies and commitment; job satisfaction and commitment.

Continuing with the review of empirical evidence between the association of the variables Organizational Management, Motivation, Commitment and Satisfaction, it is noted that Rosas (2017) found a correlation of 0.470 between job satisfaction and teacher organizational commitment. Malander (2016) concludes that job satisfaction explains 38% of the variance in predicting teacher burnout. Kupfer and Murillo (2016), in a study with a large sample, showed that directive management significantly predicts teacher commitment. López et al. (2017) point out that managers of private and public schools believe that their teachers have an intrinsic motivation linked to vocation, but feel that salary is fundamental for extrinsic motivation and achievement of organizational success.

So far, a significant number of investigations have been presented that find positive and significant correlations between the variables of the present study. But in addition to the above, there is a study of special importance because it reviews several articles that sought an association between satisfaction, commitment and educational motivation (Viseu et al., 2016) in this meta-review it is concluded that these factors in general present a positive and significant correlation.

As mentioned above, educational management and organizational climate is not a topic studied directly with the student population. While it is linked to the importance for student learning, not many studies are found that specifically collect the perception or vision of this group.

The empirical review developed can be summarized in that there are significant and positive correlations between organizational management, satisfaction, motivation and employee commitment. However, most of the correlations found are in the area of administration. This discipline should have been considered due to the scarce research and research replication in the educational area and even less in primary and secondary adult education. It is for the same reason that the present research is considered a contribution to the generation of knowledge and to the proposal to confront the problem in question.

It is important to mention that in general, teachers working in adult education have few contract hours due to the fact that this educational level has fewer hours per week than the education of children and adolescents (Espinoza, Castillo and González, 2017). In addition, there is no formal training in Chile to work in adult education.

The objective of the study is to analyze the association of the variables satisfaction, commitment and motivation of teachers and students of educational establishments for adults, with the perception of management and teacher management. It also generates a predictive model of association of the mentioned variables with the management variable.

2. Method

2.1 Positioning

Quantitative approach from an associative paradigm, from the methodological point of view, the selective or correlation analysis was used (Anguera, 1990; Arnau, 1995).

The aim is to know the perception of the actors directly involved in the study problem, in order to know the levels of association of different variables, using multiple linear regression as a technique.

2.2. Research Design

This study has an associative, non-experimental design (Hernández et al., 2010; Martínez-Arias, 1995). It is non-experimental because it does not measure causality, focusing on the levels of association through predictive models. Data will be taken in a single instance for participants who will be selected through a representative random selection. A survey will be used with each group of participants; this instrument aims to analyze the relationship between variables.

2.3. Population and Sample

Population is defined as a set of individuals or subjects that share common characteristics or identity (Hernández et al., 2010; Arias, Villasís et al., 2016). In this study, the population is composed of teachers and students from adult schools in Biobío Chile. This region is located in south-central Chile and has 3 provinces: Concepción, Arauco and Ñuble.

The approximation of the population in adult education establishments in the Biobío Region of Chile in 2018 is: G1: 3,422 and G2: 274.

The sample refers to a representative extract of subjects belonging to a given population (Hernández et al., 2010; Arias et al., 2016).

Probabilistic sampling will be used; this type of sampling is the most recommended when working with selective methodology (Arnau, 1995). As a technique for the probabilistic calculation, cluster sampling will be used (Anguera, 1990). This sampling is chosen because of the complexity of contacting all the subjects, knowing the name of each individual in a population or collecting their information in order to carry out a simple random selection process (Anguera, 1990).

In the selection by clusters, the first thing to do is to know the approximate number of the population; this is relatively simple because the information for the specific case studied is publicly available. Then, it is necessary to group the population into clusters, i.e., an establishment of adults in the Biobío Region, Chile. A criterion of minimum and maximum enrollment is also considered (establishments with enrollment between 90 and 150 students). A list of clusters was made in alphabetical order and assigned a number. For the selection, a random process was used in the selection of the establishments.

To calculate the minimum sample, the following formula was used (Fernández, 2001) considering that the approximate number of the population was known:

$$n = \frac{N \times Z_a^2 \times p \times q}{d^2 \times (N - 1) + Z_a^2 \times p \times q}$$

Detail of the formula:

N = Population.

Z = Confidence.

p = Probability of success.

q = probability of failure.

d = precision (Maximum accepted error).

After the calculation and considering a 5% error for students (G1) and 10% for teachers (G2) (both within the minimum tolerance, the difference is due to the number of individuals), the minimum representative sample after the calculations is: Group 1: 347 and Group 2: 57.

As for the clusters finally selected in the random process, there are 4 belonging to 3 different municipalities, see Table 2.

The clusters selected for the sampling belong to the municipalities of: Concepción, Talcahuano and two in Los Angeles.

The final sample was composed of 358 students and 59 teachers, which fully complies with the estimates.

2.4. Techniques or Instruments.

Two instruments will be used, one for each group. A Likert-type scale will be used, which will undergo a validation process detailed below:

Initially, a validation process is carried out by key informants or logic (Villavicencio-Caparó et al., 2016). For the analysis of the previous stage, the technique used was the development of discussion group sessions (Valles, 1997), the purpose of which was to know the opinion that the direct stakeholders have of the instrument and how comfortable they feel with it.

After this, a content validation was carried out with the participation of 7 expert judges. Content validation is relevant to identify the items that best fit the instrument and its variables, as well as to agree on a final and understandable wording. The methodology used for content validation was, as mentioned above, expert judgment by individual aggregates (Corral, 2009). This methodology is frequently used because it is economical and does not require much time investment on the part of the participants, thus increasing the probability of effective participation (Corral, 2009). According to the author, the minimum number of experts with whom to work is 3, so 7 would be an adequate number of judges.

Finally, and considering that in the previous validations quantitative analyses have not been carried out, internal consistency validation was performed (Campos and Oviedo, 2008). This technique provides the option of knowing the level of correlation between the items of the scale, thus elucidating the degree of reliability present in the instrument. The internal consistency analysis is carried out by calculating Cronbach's alpha, with the support of SPSS software version 23.

The internal consistency indicates that the scale is reliable with a value of 0.892.

2.5. Procedure

After the selection of the population, the managers of the educational organizations are personally contacted. Then, meetings are scheduled with students and teachers to explain the research, its scope, the importance of their participation and the permanent voluntariness that exists in the process. Each of the participants belonging to both groups signed informed consents, considering that all of them are of legal age. At all times of the study, the ethical regulations set forth in the Singapore code, APA, etc., were followed.

A multiple regression analysis (Keskin et al., 2007) was developed to analyze in depth the relationships generated between the variables considered and to establish levels of prediction without evidence of causality. To determine the normality of the data distribution, the Kolmogorov-Smirnov test was applied because the sample is larger than 50 individuals (Romero-Saldaña, 2016). After analysis, the data presented normal distribution.

3. Results

3.1. Normal distribution

Table 3

Student normality analysis.

N	358
KS.	,951
Sig. (bilateral)	,326

Source: Own elaboration.

Table 4

Teacher normalcy analysis.

N	59
KS.	,709
Sig. (bilateral)	,697

Source: Prepared with support from SPSS. 23.

Tables 3 and 4 show that in both groups the significance is higher than the 0.05 range accepted in the literature to consider that the data distribution is normal.

3.2. Multiple regression analysis

3.2.1. Multiple linear regression analysis G1. Students.

A multiple linear regression analysis was carried out in order to determine the total variance explained and thus propose an explanatory model that would provide an input to address the problem in practice.

The correlational analysis carried out by the same researcher (Sagredo, 2019) on the same sample showed that there is a positive correlation, but with different levels of significance. According to Anguera (1990), for a robust analysis of association between variables to obtain strong predictive levels, it is essential to enrich the analysis by means of regression.

The variables are coded into: Commitment (C), Satisfaction (S) and Motivation (M).

Table 5

Multiple regression analysis G1.

Association of variables	R	R ²	R ² corrected	Error
C.	,658 ^a	,432	,431	2,09
M.	,612 ^b	,374	,372	2,20
S.	,587 ^c	,345	,343	2,25
C. M.	,705 ^d	,497	,494	1,97
S. M.	,681 ^e	,464	,461	2,04
S. C.	,684 ^f	,468	,465	2,03
C. M. S.	,718 ^g	,516	,512	1,94

Source: Own elaboration.

Table 5 shows that the predictive model that best explains the variance is model 7, which considers the 3 study variables. The R² is 0.516 but in regressions it is more appropriate to consider the R², the corrected value is 0.512. Also in model 7, the standard error is the smallest.

If a regression model is to be accepted, it is paramount to analyze the following assumptions: Linearity, independence of errors and collinearity.

Linearity: Observing Figure 1, it can be seen that linearity is fulfilled.

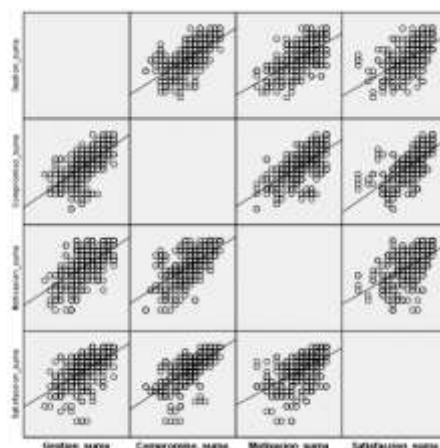


Figure 1: Scatter plot G1. Linearity of the multiple regression model (Students). Biobío, Chile, 2018.

Error independence: The value of the Durbin Watson test is 1.614. If it is considered that for error independence to exist, the value must be between 1.5 and 2.5, it can be said that the model presents error independence (Table 6).

Table 6

Testing Durbin Watson G1.

Model	R	R2	R2 corrected	Standard error of estimation	Durbin-Watson
7	,718 ^a	,516	,512	1,94341	1,614

Source: Own elaboration.

Collinearity: Table 7 shows compliance with non-multicollinearity. As a range for this assumption, the Inflated Variance Factor (IVF) must be less than 10 (flexible parameters) or less than 3 (demanding parameters). The IVF of the chosen model is between 1.740 and 1.958, clearly a value lower than 3, so the assumption is accepted.

Table 7

Test t G1.

Model	Typified coefficients	t	Sig.	Collinearity statistics	
	Beta			Tolerance	FIV
(Constant)		10,255	,000		
C.	,343	6,171	,000	,442	2,263
7 M.	,288	5,902	,000	,575	1,740
S.	,195	3,761	,000	,511	1,958

Source: Own elaboration.

Table 7 also verifies the t-scores, according to which it can be said that the variables considered in the model contribute significantly.

Table 8

ANOVA G1.

	Sum of squares	gl	Root mean square	F	Sig.
Regression	1426,022	3	475,341	125,856	,000
Residual	1337,006	354	3,777		
Total	2763,028	357			

Source: Own elaboration.

Table 8 shows that model 7 significantly improves the prediction of the management variable (F: 125,856; p<,001)

3.2.2. Multiple linear regression analysis G2. Teachers.

Table 9

Multiple regression analysis G2.

Variables	R	R2	R2 corrected	Typical error
C.	,789 ^a	,622	,616	3,45
M.	,398 ^a	,158	,143	5,15
S.	,696 ^a	,484	,475	4,03
C.	,796 ^b	,634	,621	3,42
M.				
S.	,718 ^b	,516	,498	3,94
M.				

S.				
C.	,789 ^b	,622	,609	3,48
C.				
M.	,796 ^c	,634	,614	3,46
S.				

Source: Own elaboration.

Table 9 shows that of the predictive models, the one with the best fit is 4. Combination of 2 variables (Commitment and Motivation). The R2 is 0.634; however, as mentioned with the previous group, what is relevant is to consider the corrected R2 whose value was 0.621 with the smallest standard error of all.

Analysis of assumptions necessary to accept the model: Linearity, independence of errors and collinearity.

Linearity: Figure 2 shows that the model complies with the linearity assumption.

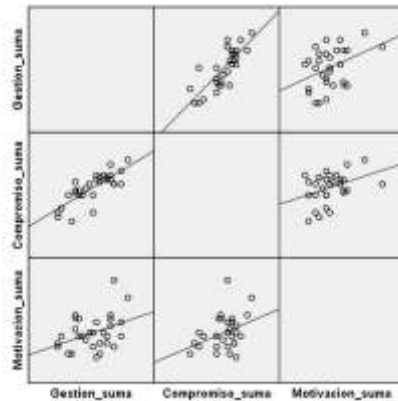


Figure 2: Scatter plot G2. Linearity of the multiple regression model (Teachers). Biobío, Chile, 2018.

Independence of errors: Table 9 shows that the Durbin Watson test gives a value of 2.395. According to the literature, in order to accept the model, the values must be between 1.5 and 2.5.

Table 10

Durbin Watson test G2.

Model	R	R2	R2 corrected	Standard error of estimation	Durbin-Watson
4	,796 ^a	,634	,621	3,42968	2,395

Source: Own elaboration.

Collinearity: The chosen model complies with the assumption of no multicollinearity. The Inflated Variance Factor (IVF) should be less than 10 (more flexible parameters) or less than 3 (more demanding parameters). The IVF of both variables of the model is 1.164.

Table 10

Model	Beta	t	Sig.	Collinearity statistics		
				Tolerance	FIV	
	(Constant)	1.054	,297			
4	C.	,744	8.537	,000	,859	1,164
	M.	,118	1.359	,180	,859	1,164

Test t G2.

Source: Own elaboration.

t is evident that the t-value of model 4 does not contribute with equal significance (Table 10).

As a result of the above and to demonstrate statistical rigor, model 4 will be omitted considering for analysis the second highest value in the corrected R-squared. Model No. 1, which considers only the commitment variable (Table 11), is selected as a remedial

action. This model has a corrected R2 of 0.616, an equally important value since it predicts 61.6% of the teacher management variable. This model also complies with the necessary assumptions and significance.

Table 11

Test t G2 (model 1)

	Unstandardized coefficients		Typified coefficients	t	Sig.	Source: Own elaboration.
	B	Typical error .	Beta			
(Constant)	2.951	1.622		1.819	.074	Table 11 shows that the new model fits significantly better than the new model (t: 9.68; p<,001). Table 12 ANOVA G2 (Model 1)
C.	.645	.067	.789	9.688	.000	

	Sum of squares	gl	Root mean square	F	Sig.
Regression	1120,408	1	1120,408	93,856	,000
Residual	680,440	57	11,938		
Total	1800,847	58			

Source: Own elaboration.

The new model actually improves the prediction of the management variable significantly (F= 93,856; p<,001).

Therefore, model 1 is the regression model finally accepted for this group in the present study.

4. Conclusions

The resulting section shows that, for the multiple regression analysis of both groups, we are looking for the model that groups the variables that best associate and predict the perception of the management dimension. The above considering the need to comply with minimum assumptions in order to accept the regression model.

In the analysis of G1, the best option is the grouping of the total variables (Commitment, motivation and satisfaction). These variables explain 51.2% of the variance of the management perception, precisely because the corrected R-squared gives a value of 0.512. The model also meets the minimum statistical assumptions to accept it.

The variance explained for G1 is quite high, which is an interesting finding. However, it is always important in research to consider that there is a percentage of unexplained variance, which in the previous case is 48.8%. This is why one must be careful before assertively generalizing a finding, even more so considering that for G1 there is little empirical evidence in the context of the present study. It is key for the generation of knowledge to replicate and continue advancing in the process and subject matter in question.

In the case of G2, an initial result is obtained that is quite useful to explain the rigorousness that should exist in the regression analyses. Initially, model 4 had been selected since it was the one that provided the highest corrected R-squared. However, this model did not strictly comply with the minimum statistical assumptions for its acceptance. Because of this, it was replaced by model 1, which does comply with all the corresponding assumptions. Both results are presented in the report to support the decision and to serve as an example and support for fellow researchers.

For G2, the predictive model selected contained only the commitment variable, which met the aforementioned assumptions. The commitment variable explains 61.6% of the variance in management perception, because the corrected R2 is 0.616.

It is important to point out once again that, as in the previous group, the high variance explained is a relevant finding, but we should not overlook what was pointed out in G1; the 38.4% of unexplained variance should also be considered. This is fundamental for later generalizing findings with strong support.

With respect to the research objective, it can be said that there is indeed a positive and significant association between the variables commitment, satisfaction and motivation and the perception of management expressed by teachers and students, which can be evidenced by observing that all the predictive models show significance. It is also possible to clarify these positive and significant relationships in Figures 2 and 3, which plot the linearity of the relationships of variables considering both study groups. This is consistent with what has been found in various research studies in the area (Akram et al., 2015; Rosas, 2017; Malander, 2016; Kupfer y Murillo, 2016; López et al., 2017).

Despite the aforementioned positive correlation, one can appreciate the difference in significance between variables mainly observed in the G2 scatter plots. This further justifies the regression analysis.

To complement the conclusion and contribution of the present research, a graphical interpretation is proposed for the organizational climate management coping. This interpretation is made considering the results and the exhaustive theoretical and state of the art review carried out.

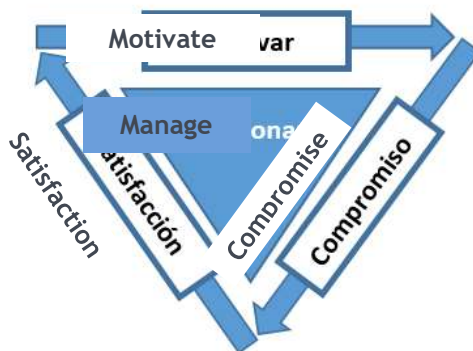


Figure 3: Organizational Climate Management Students (GCOE).

Figure 3 shows the proposed model for coping with or optimizing management for the development of the organizational climate according to the perception of students. This model could also be applicable in regular education, but it is necessary to replicate this research in this context in order to minimize the degree of error in its application.

The proposal is based on research results and theoretical and empirical analysis. It is recalled that the multiple regression analysis applied gave the result that indicates that the variables commitment, motivation and satisfaction explain 51.2% of the variance of the management perception variable. This is why it is presumed that, for the adequate development of the perception of organizational climate in adult education students, it could be a good strategy to incorporate teaching and directive management as a nucleus, striving to permanently motivate students so that they feel committed and satisfied with their organization. These actions should be part of a continuous and constant cycle.

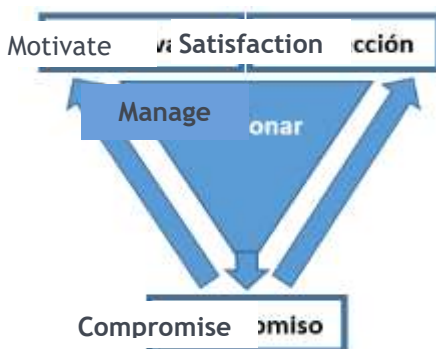


Figure 4: Teacher Organizational Climate Management (GCOD).

Figure 4 shows the proposal for G2, which is a mixture of research results and theoretical and empirical review.

It is recalled that the analysis developed for G2 indicates that the commitment variable is the one that best predicts management with 61.6% of the variance explained.

For all of the above reasons, the use of the proposed model is recommended as a tool to face management with a vision of continuous improvement of the organizational climate. It is essential that especially educational managers visualize the climate and teacher satisfaction as a means to achieve institutional and learning objectives. What the model specifically points out is the promotion and generation of activities to achieve teacher commitment and then contribute to loyalty, increasing motivation and generating actions that allow satisfaction. Consider also that the perception of organizational climate, motivation and teacher satisfaction is related to the perception of the organizational climate of students. Gallegos and López (2019) corroborate the importance of commitment in the development of teaching practice.

As a research projection, it would be interesting to test the proposed models through a quasi-experiment that delivers data linked to causality. In this way more data will be available to generalize the findings.

It is interesting to see how adult education students seem to be more motivated than teachers; this has not been previously found in research linked to education. Perhaps this may be due to the fact that teachers in general do not perceive adult education as their main source of employment and the lack of training in andragogy. Teachers are obliged to learn from mistakes and in practice.

Referencias

1. Akram, M., Irfan, M., Sarwar, M., Anwer, M., y Ahmad, F. (2015). Relationship of Teacher Competence with Professional Commitment and Job Satisfaction at Secondary Level. *AYER International journal*, 4, 58-70.
2. Aldridge, J.M. y Fraser, B.J. (2016). Teachers' views of their school climate and its relationship with teacher self-efficacy and job satisfaction. *Learning Environments Research*, 19(2), 291-307. <https://doi.org/10.1007/s10984-015-9198-x>
3. Anguera, M. T. (1990). *Metodología observacional*. En J. Arnau, M.T. Anguera y J. Gómez, *Metodología de la investigación en Ciencias del Comportamiento* (pp. 125-236). Murcia: Universidad de Murcia.
4. Arias, J., Villasís, M. A., y Miranda, M. G. (2016). The research protocol III. Study population. *Rev. Alerg. Mex.*, 63(2), 201.
5. Arnau, J. (1995). *Metodología de la investigación psicológica*. En R. Martínez (coord.): *Métodos de investigación en Psicología*. Madrid: Síntesis.
6. Atkinson, R. C., y Shiffrin, R. M. (1968): *Human Memory: a proposed system and its control processes*, en Spence, K. W., y Spence, J. T. (eds.): *The Psychology of Learning and Motivation: Advances in Research and Theory*, vol. 2. Academic Press, Nueva York.
7. Baños, R., Ortiz-Camacho, M., Baena-Extremera, A., y Tristán-Rodríguez, L. (2017). Satisfacción, motivación y rendimiento académico en estudiantes de Secundaria y Bachillerato: antecedentes, diseño, metodología y propuesta de análisis para un trabajo de investigación. *Espiral. Cuadernos del Profesorado*, 10(20), 40-50
8. Bisquerra, R. (2009). *Metodología de la Investigación Educativa*. Madrid: La Muralla, S.A.
9. Campos, A., y Oviedo, H. (2008). Propiedades psicométricas de una escala: la consistencia interna. *Rev Salud Pública*, 10 (1), 831-839.
10. Chiavenato, I. (2001). *Administración de Derechos Humanos*. México: Quinta Edición. Editorial McGraw Hill.
11. Corral, Y. (2009). "Validez y confiabilidad de los instrumentos de investigación para la recolección de datos". *Revista Ciencias de la Educación*, 19(33). <http://servicio.bc.uc.edu.ve/educacion/revista/>
12. Dieterich, H (1996). *Nueva Guía para la Investigación Científica*. Ciudad de México, Editorial Planeta Mexicana. <http://www.ceuarkos.com/heinz.pdf>
13. Espinoza, O., Castillo, D., y González, L. (2017). Educación de adultos en Chile: percepciones y valoraciones de sus beneficiarios. *Revista Brasileira de Educação*, 22(71), 1-27. <https://dx.doi.org/10.1590/s1413-24782017227176>
14. Fernández, P. (2001). Determinación del tamaño muestral. *Unidad de Epidemiología Clínica y Bioestadística. Complejo Hospitalario Juan Canalejo*, 3, 138-14.
15. Fullan, M. (2002). *Los nuevos significados del cambio en educación*. Octaedro: Madrid.
16. Gallegos, V., López, P. (2019). Influencia del liderazgo distribuido y de la eficacia colectiva sobre el compromiso organizacional docente. *Profesorado, Revista de Currículum y Formación del Profesorado*, 23(2), 189-210
17. Hargreaves, A. y Fink, D. (2006). *El Liderazgo Sostenible. Siete Principios para el Liderazgo en Centros Educativos Innovadores*. Madrid: MINEDUC / Ediciones Morata.
18. Hargreaves, A., y Fullan, M. (2014). *Capital profesional*. Madrid: Morata.
19. Harris, A. (2008) *Distributed School Leadership: Developing tomorrow's leaders*. Oxon: Routledge.
20. Harris, A., y Spillane, J. (2008) Distributed Leadership Through The Looking Glass. *Management in Education*, 22(1): 31-34.
21. Hernández, R., Fernández, C. y Baptista, P. (2010). *Metodología de la Investigación*. México: Mc Graw Hill.
22. Kitratporn, P., y Puncreobutr, V. (2016). Quality of Work Life and Organizational Climate of Schools Located along the Thai-Cambodian Borders. *Journal of Education and Practice*, 7(11), 134-138.
23. Köse, A. (2016). The Relationship between Work Engagement Behavior and Perceived Organizational Support and Organizational Climate. *Journal of Education and Practice*, 7(27), 42-52. <http://iiste.org/Journals/index.php/JEP>
24. Kupfer, A., y Murillo, F. (2016). Incidencia de la dirección escolar sobre el compromiso de los docentes: Un estudio multinivel. *Psicoperspectivas*, 15(2), 64-77. DOI 10.5027/PsicoperspectivasVOL15-ISSUE2-FULLTEXT-746
25. Leithwood, K., Day, C., Sammons, P., Harris, A., y Hopkins, D. (2006). *Successful school leadership: what it is and how it influences pupil learning*. UK: University of Nottingham
26. Leithwood, K., y Mascal, L. (2009). Efectos del liderazgo colectivo sobre el logro escolar. En K. Leithwood. (Ed.), *¿Cómo liderar nuestras escuelas? Aportes desde la investigación. Santiago de Chile, Chile: Salesianos*, 17-33
27. López, H., Vélez, M., y Franco, F. (2017). Percepciones acerca de la motivación docente en personal directivo de instituciones de educación secundaria en la zona metropolitana de Medellín, 2015. *Revista Electrónica Educare*, 21(2), 1-23
28. Lusquiños, C. (2019). Prácticas de Liderazgo distribuido y Mejora Escolar. Evaluación de un ciclo de capacitación de directores. *Profesorado, Revista de Currículum y Formación del Profesorado*, 23(2), 131-151
29. Malander, N. (2016). Síndrome de Burnout y Satisfacción Laboral en Docentes de Nivel Secundario. *Ciencia y Trabajo*, 18 (57), 177-182
30. Martínez-Arias, M. R. (1995). *El método de las encuestas por muestreo: conceptos básicos*. En M. T. Anguera, J. Arnau, M. Ato, R. Martínez, J. Pascual y G. Vallejo (Eds.), *Métodos de investigación en Psicología*. Madrid: Síntesis.
31. Maslow, A. (1991). *Motivación y personalidad*. Madrid: Ediciones Díaz de Santos.
32. Maureira, Ó., y Garay, S. (2019). Hacia la medición de la distribución del liderazgo en escuelas efectivas y vulnerables en Chile. *Perfiles Educativos*, 41(166). <https://doi.org/10.22201/iissue.24486167e.2019.166.58718>

33. Miranda, S. (2016). La gestión directiva: un concepto construido desde las comprensiones de los directivos docentes de las escuelas públicas bogotanas. *Revista Iberoamericana para la Investigación y el Desarrollo Educativo*, *Revista Iberoamericana para la Investigación y el Desarrollo Educativo*, 7(13), 01-28
34. Morlino, L. (2010). *Introducción a la investigación comparada*. Madrid: Alianza editorial.
35. Ngozi, R., Jones, G., y Prince, N. (2015). A Review of Leadership Theories, Principles and Styles and Their Relevance to Educational Management. *Management*, 2015, 5(1): 6-14 DOI: 10.5923/j.mm.20150501.02
36. Romero-Saldaña, M. (2016). Metodología de la investigación: Pruebas de bondad de ajuste a una distribución normal. *Revista Enfermería del Trabajo*, 6(3), 105-114.
37. Rosas, R. (2017). Satisfacción laboral e incidencia en el compromiso organizacional de docentes de centros de educación básica alternativa del ciclo avanzado de la región puno. *Revista Científica Investigación Andina*, 17(01), 14-20
38. Ruiz, C. (2002). *Instrumentos de Investigación Educativa*. Venezuela: Fedupel.
39. Ruiz, M., Moreno, J., y Vera, J. (2015). Del soporte de autonomía y la motivación autodeterminada a la satisfacción docente. *European Journal of Education and Psychology*, 8(2), 68-75
40. Sagredo, E., y Castello, A. (2019). Gestión directiva y clima organizacional en la educación de personas adultas en Chile. *Revista Actualidades Investigativas en Educación*, 19(2), 1-23. Doi.10.15517/aie.v19i2.3689
41. Sagredo, E. (2019). Relación entre gestión directiva, satisfacción, motivación y compromiso docente en educación de adultos. *Revista Innovación Educativa IPN*, 19 (81), 111-132.
42. Schein, E. (2010). *Organizational culture and leadership*. San Francisco: Jossey Bass.
43. Sotelo, J., y Figueroa, E. (2017). El clima organizacional y su correlación con la calidad en el servicio en una institución de educación de nivel medio superior. *RIDE. Revista Iberoamericana para la Investigación y el Desarrollo Educativo*, 8(15), 582-609
44. Sun, R. (2016). Student Misbehavior in Hong Kong: The Predictive Role of Positive Youth Development and School Satisfaction. *Applied Research in Quality of Life*, 1-17.
45. Üstüner, M., y Kis, A. (2014). The Relationship between Communication Competence and Organizational Conflict: A Study on Heads of Educational Supervisors. *Eurasian Journal of Educational Research*, 56(1), 23-44. <http://dx.doi.org/10.14689/ejer.2014.56.5>
46. Valles, M. S. (1997). *Los grupos de discusión y otras técnicas afines, en Técnicas cualitativas de investigación social*. Reflexión metodológica y práctica profesional. Madrid: Síntesis. (279-335).
47. Villavicencio-Caparó, E., Ruiz-García, W., y Cabrera-Duffaut, A. (2016). Validación de cuestionarios. Contribución didáctica docente. *Revista OACTIVA UC Cuenca*. 1(3), 71-76.
48. Viseu, J., Neves de Jesus, S., Rus, C., y Canavarró, J. (2016). Teacher motivation, work satisfaction, and positive psychological capital: A literature review. *Electronic Journal of Research in Educational Psychology*, 14(2), 439-461. <http://dx.doi.org/10.14204/ejrep.39.15102>
49. Yassin, A., Mohamud, A., y Tarabuunka, J. (2016). Teacher Motivation and School Performance, the Mediating Effect of Job Satisfaction: Survey from Secondary Schools in Mogadishu. *International Journal of Education and Social Science*, 3(1), 24-38