
Self-concept, school adjustment and emotional intelligence in Mexican students attending on-line high school programs

Autoconcepto, ajuste escolar e inteligencia emocional en estudiantes mexicanos de bachillerato en línea

在线墨西哥高中生的自我概念、学校适应和情商

Самоконцепция, адаптация к школе и эмоциональный интеллект у мексиканских онлайн-студентов бакалавриата

Samuel Alejandro Portillo Peñuelas

Instituto Tecnológico de Sonora
samuel.portillo40519@potros.itson.edu.mx
<http://orcid.org/0000-0002-1521-6619>

Oscar Ulises Reynoso González

University of Guadalajara
ulises.reynoso@academicos.udg.mx
<http://orcid.org/0000-0002-0598-4665>

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Abstract

The aim of this study is to analyze the relationship between self-concept, school adjustment and emotional intelligence in a sample of students from the National On-line High School System in Mexico, contrasting their scores in each variable with the type of course they attended (ordinary or non-ordinary), sex and age. The study is quantitative, cross-sectional, non-experimental and correlational. A sample of 397 students attending on-line high school programs from different Mexican states was selected by incidental, non-probabilistic methods. In order to measure the study variables, the Self-Concept Scale (AF-5), the Brief School Adjustment Scale (EBAE-10) and the Emotional Intelligence Scale (TMMS-24) were applied. The results show high scores of self-concept, school adjustment and emotional intelligence in the students, while positive correlations between these variables and their dimensions were confirmed. Globally, significant differences between students in ordinary courses and their peers in non-ordinary courses were observed, specifically in academic variables. In relation to sex, men reported a greater global self-concept, while women showed better scores in emotional intelligence, specifically in the attention factor, while in school adjustment, no differences by sex were reported. Regarding age, students aged 30 years and older presented higher levels of self-concept and school adjustment. Results revealed that high scores of self-concept, school adjustment and emotional intelligence positively affect the academic performance of high school students in the on-line modality of learning.

Keywords: school adjustment, self-concept, on-line education, emotional intelligence.

Resumen

El objetivo de este estudio fue analizar la relación entre el autoconcepto, el ajuste escolar y la inteligencia emocional en una muestra de estudiantes del Sistema Nacional de Bachillerato en Línea, contrastando sus niveles de acuerdo con el tipo de curso (ordinario o no ordinario) el sexo y la edad. El estudio es de carácter cuantitativo, transversal, no experimental y de alcance correlacional. Participaron 397 estudiantes del bachillerato en línea seleccionados por muestreo no probabilístico incidental provenientes de los diversos Estados de la República Mexicana. Para medir las variables del estudio se utilizó la Escala de Autoconcepto (AF-5), la Escala Breve de Ajuste escolar (EBAE-10) y la Escala de Inteligencia Emocional (TMMS-24). Los resultados indican puntuaciones altas de autoconcepto, ajuste e inteligencia emocional en el estudiantado constatándose correlaciones positivas entre estas variables y sus dimensiones. De manera agregada, se presentaron diferencias significativas entre los estudiantes en curso ordinario y sus pares en situación remedial, específicamente en las variables de tipo académico. Referente al sexo los hombres reportaron un mayor autoconcepto global, mientras que las mujeres mantuvieron mejores puntuaciones en inteligencia emocional, específicamente en el factor atención, mientras para el caso del ajuste escolar no se reportaron diferencias por género. En cuanto a la edad, el estudiantado mayor a 30 años presentó niveles más altos de autoconcepto y ajuste escolar. Se concluye que las altas valoraciones de autoconcepto, ajuste escolar e inteligencia emocional inciden de manera positiva en el rendimiento académico de los estudiantes de bachillerato en la modalidad en línea.

Palabras clave: ajuste escolar, autoconcepto, educación en línea, inteligencia emocional.

概要

本研究的目的是分析国家在线高中教育系统学生样本的自我概念、学校适应和情商之间的关系,研究其水平与课程类型(普通或非普通),性别和年龄的关系。该研究是定量、横向、非实验性和相关性研究。通过非概率抽样从墨西哥共和国各州选取 397 名在线高中学生参加了此次研究。为了测量研究变量,我们使用了自我概念量表 (AF-5)、简短学校适应量表 (EBAE-10) 和情商量表 (TMMS-24)。结果表明学生的自我概念、适应能力和情商上的高分,验证了这些变量与其维度之间的正相关关系。总体来说,普通课程的学生与补习情况下的同龄人之间存在显著差异,特别是在学术变量上。在性别方面,男性表现出更高的整体自我概念,而女性在情商,特别是在注意力方面有更好的表现。在学校适应方面没有发现性别差异。从年龄看,30 岁以上的学生自我概念和对学校适应水平较高。最后得出结论,自我概念、学校适应和情商的分越高,在线模式下高中生的学业成绩越好。

关键词:学校适应,自我概念,在线教育,情商。

Аннотация

Целью данного исследования было проанализировать взаимосвязь между самоконцепцией, школьной адаптацией и эмоциональным интеллектом в выборке студентов Национальной системы онлайн-бакалавриата, противопоставив их уровни в зависимости от методологии (обычная или адаптивная), пола и возраста. Исследование является количественным, трансверсальным, неэкспериментальным и корреляционным. В исследовании приняли участие 397 студентов бакалавриата, отобранных методом невероятной случайной выборки из разных штатов Мексиканской Республики. Для измерения переменных исследования использовались Шкала самоконцепции (AF-5), Краткая шкала школьной адаптации (EBAE-10) и Шкала эмоционального интеллекта (TMMS-24). Результаты свидетельствуют о высоких показателях самоконцепции, адаптации и эмоционального интеллекта у студентов, с положительными корреляциями между этими переменными и их составляющими. В целом, между студентами обычного курса и их сверстниками, проходящими коррекцию, наблюдались значительные различия, особенно в академических переменных. Что касается пола, то мужчины отметили более высокую глобальную самоконцепцию, в то время как женщины показали более высокие результаты по эмоциональному интеллекту, в частности, по фактору внимания, в то время как в случае школьной адаптации различий по полу не было. Что касается возраста, то студенты старше 30 лет продемонстрировали более высокие уровни самоконцепции и школьной адаптации. Сделан вывод о том, что высокие оценки самоконцепции, школьной адаптации и эмоционального интеллекта положительно влияют на академическую успеваемость студентов онлайн бакалавриата.

Ключевые слова: школьная адаптация, самоконцепция, онлайн-образование, эмоциональный интеллект.

Introduction

In the educational field, topics such as self-concept, school adjustment and emotional intelligence, attract attention and continue to be the scope of research studies from initial to higher education. This interest lies in the influence that these constructs have in the success or failure of the students, as predictive and modulating variables in

studies related to the students' academic performance during their educational life-cycle (Alcaide, 2009; Barca et al., 2011; Díaz & Ruíz, 2018; Ferragut & Fierro, 2012; Herrera-Ramírez et al., 2007; Santana et al., 2014; Usán & Salavera, 2019; Valadez et al., 2013; Valenzuela & Portillo, 2018).

Self-concept defined as the assessment that a person has about himself/herself (Ramírez & Barragán, 2018; Rojas & Bolívar 2009), affects the individual, social, emotional and behavioral appreciation of the subjects. Therefore, self-awareness represents the starting point for the establishment of identity and the value that is given to the different dimensions that compose it (Alcaide, 2009). In this sense, the subjects will be formed based on their personal life context (age, sex, academic, physical, and family conditions, among others) for the construction of their self-concept, which will be based on the life experiences with others and on the attributions related to their behavior (Cazalla & Molero, 2013; Cazalla et al., 2015; Portillo, 2020). In addition, self-knowledge implies the recognition of the capacities, attitudes and abilities a person has to interact in different contexts, being the academic setting one of the most important elements to consider. However, when the acquisition of merely academic knowledge is not enough to achieve school success, other educational issues must be considered inside and outside the classroom (Cazalla & Molero, 2016), being the school adjustment essential in terms of the need to adapt to both changing tasks and demands (Antonio-Agirre et al., 2015).

Definitely, the emotional aspect will have to be added in the processes of introspection and extrospection of the subject, in terms of self-recognition and the consolidation of skills that he or she considers determining to face situations of social nature (relationship between peers), academic (relationship with teachers), professional (relationship with coworkers), physical assessment (relationship with sports colleagues) and family (relationship with family members) that involve answering questions such as: How do I feel?; How do I get along with others?; What do others think about me?; How do they treat me?, among other questions. In this regard, Salovey and Mayer (1990, p.189) define emotional intelligence as "the ability to monitor the feelings and emotions of oneself and others, to discriminate between them and to use this information for the orientation of one's own action and thought".

In the specialized literature on this field, some studies address the concepts of self-concept, emotional intelligence and school adjustment. For example, Antonio-Agirre et al. (2015) demonstrated that emotional repair, academic self-concept, social self-concept and general self-concept can predict school adjustment of students aged between 11 and 18 years. In the same vein, Herrera et al. (2020) in a multicultural sample of students aged between 10 and 12 years, analyzed the relationship between self-concept, personality and emotional intelligence, as well as its association with academic performance. Among its findings, the predictive capacity of academic self-concept on all primary education subjects stands out. Regarding personality, only the intellect/imagination dimension represents a significant weight in all school subjects, while the adaptability and intrapersonal dimensions of emotional intelligence predict academic performance in some specific school subjects.

For the purposes of this research, the students attending on-line high school programs in Mexico were analyzed, where the assessment of such abilities is built on the level of social interaction through the use of technology, to which behaviors and culture of the participants are transferred (Cardona, 2008). In this sense, high school education in Mexico is committed to the on-line modality of learning as a space for both young people and adults who are in a position to study, strengthen the knowledge acquired in

basic education and acquire new skills and competencies that allow them to respond to the demands of the 21st century.

Self-concept

Self-concept has a central role in the educational field, since it has traditionally been considered as an aspect that transcends the motivation to learn and is considered an essential element in the approach to the student's adaptation to school (Antonio-Agirre et al., 2015; Barca et al., 2011). In the emotional aspect, self-recognition has a positive impact on the coexistence among peers and psychological well-being, while in negative terms it is translated into the transgression of social norms (Gutiérrez & Expósito, 2015).

In this sense, self-concept is glimpsed towards the knowledge, understanding and identity of oneself (Díaz & Ruiz, 2018) and its study is based on the fact that it is a central aspect for personal well-being (Cazalla et al., 2015). Another important aspect to consider is that it acts as an organizer of the new information that is received, which makes it possible to assess situations and adapt the behavior based on its own capacities (Correa et al., 2015). At a conceptual level, Alcaide (2009, p.30) defines it as:

The idea that the subject has of himself/herself, built on the basis of an observation of his/her own capacities and limitations; observation that can be distorted by factors considered as external, such as interaction with others, aesthetic patterns that govern their social environment, the biological repertoire with which the individual was born, and early experiences within the family.

Regarding these elements, it is clear that self-concept is configured based on the multiple perceptions that the individual acquires in different life stages and conditions. Barca et al. (2011) express age, sex, social condition and educational and cultural level as the most determining elements. In this sense, to better understand the multidimensional and hierarchical nature of self-concept, it is necessary to refer to the model of Shavelson et al. (1976) for the identification of academic and non-academic domains that make up self-concept, the latter being configured by emotional, social and physical components (Reynoso et al., 2018). Currently, the most accepted and used model is the one proposed by García and Musitu (2014) that considers five dimensions (academic, social, family, physical and emotional) each of them operating, configuring and collaborating independently in the perception of oneself.

In relation to the predictive capacity of self-concept and emotional intelligence in perceived school adjustment, academic self-concept stands out as an important correlate of adolescent psychosocial adjustment (Cazalla & Molero, 2013) related to school achievement, peer relationships, compliance with assignments, school commitment and interest in attending school (Moral et al., 2010).

On the other hand, problems associated with failure, absenteeism and coexistence in educational environments would be indicative of an adjustment associated with a negative self-concept, the latter maintaining a great predictive capacity (Fernández-Lasarte et al., 2019) towards educational lag related to school dropout and other school difficulties, which if generated cumulatively, can lead to failure (Díaz & Ruiz, 2018).

In relation to age, theoretical references point out that as the years go by, an increasingly stable self-concept is formed, which allows directing behavior with greater ca-

capacity in specific situations (Cazalla & Molero, 2013; Reynoso et al., 2018). In this sense, during childhood and adolescence the self-concept can present changes and evolve during the transition period to adulthood. This process will be the product of the identification of peer groups, participation in new roles, search for family independence, acquisition of new responsibilities and socially recognized achievements, among other types of experiences (Alcaide, 2009; Moral et al., 2010).

Regarding sex, research positions women with a better academic and social self-concept (Alcaide, 2009; Barca et al., 2011; Caldera et al., 2018). Men, on the other hand, show better assessments in the emotional, physical and family dimension (Herrera-Ramírez et al., 2007; Reynoso et al., 2018), with significant differences by age groups in family self-concept in students aged under 24 years (Cazalla et al., 2015).

School adjustment

School adjustment transcends in terms of considerations associated with what it means to be a good student, the enjoyment of attending school and doing homework, the identification of classmates with whom he or she gets along and those with whom he or she has problems, as with teachers, as well as feelings of being part of the group (Calero et al., 2018), feeling loved, rejected, integrated or excluded in terms of school coexistence and the construction of a life project.

There is empirical evidence associated with school adjustment that indicates that students who maintain good relationships with their teachers have fewer failed courses (Díaz & Ruiz, 2018). Based on school tasks, family support has been highlighted as an important variable (Azpiazu et al., 2014). Therefore, students who retake or have failed courses present a negative family self-concept, showing positive assessments, those who do not present a failure situation (Díaz & Ruiz, 2018).

On the other hand, Moral et al. (2010) predicted a better school adjustment in high school than middle school students, attributing the results to greater maturity (age) and intention to attend university (motivation) at this school stage. There are significant differences by sex presenting women higher levels of global adjustment, higher academic expectations and higher academic performance (Fernández-Lasarte et al., 2019), being the independent variable, academic self-concept the one that best contributes to its explanation. Finally, Azpiazu et al. (2014) report significant relationships of school adjustment with contextual factors (family support, friends and teachers) and individual factors (self-concept and life satisfaction).

Emotional intelligence

Regarding emotional intelligence, it cannot be excluded from the teaching-learning processes (Cardona, 2008) since it affects all people in any context and it is present inside and outside of school situations (Gutiérrez & Expósito, 2015). The construct as a trait is composed of different dimensions: attention to feelings (emotional attention), clarity of emotional experience (emotional clarity) and the ending of negative moods or the extension of positive ones (emotional repair) (Antonio -Agirre et al., 2015; Calero et al., 2018; Carpio et al., 2019). In this sense Gutiérrez and Expósito (2015, p.44) express:

Emotional intelligence allows us to become aware of our emotions, understand the feelings of others, tolerate the pressures and frustrations that we endure at work, strengthens our ability to work as a team and adopt an empathic and social attitude, which will give us greater possibilities of personal development.

There is empirical evidence regarding positive correlations between the three components of emotional intelligence (attention, clarity and emotional repair) in samples composed by the adolescent population (Ferragut & Fierro, 2012). From the models of emotional intelligence analyzed through self-perceived measures, no differences were found by sex at a general level, but differences were reported in the sub-dimensions. In the attention factor, significant differences are reported for women while men present positive scores in the clarity and emotional regulation factor (Calero et al., 2018; Pérez-Bonet & Velado-Guillén, 2017).

On-line high school programs

In Mexico, the National On-line High School Service is part of the national educational policy, which in general seeks to implement programs and strategies in order to benefit from the available digital resources (Ramírez & Barragán, 2018). Noting that, as in the face-to-face education system, students will have to carry out tasks and projects, interact with their classmates and teachers, as well as give opinions, with emotions playing a determining role, in addition to the intellectual factor, in the definition of the success or failure of the participant in this learning modality (Herrera et al., 2009; Ramírez & Barragán, 2018). Therefore, it is necessary to assess the degree to which the students are integrated into this school modality, making it clear that virtual communities involve spaces for human interaction that satisfy specific needs for exchanges, help, leisure, collaborative relationships between users with interests and similar experiences of identification and inclusion through information sending and receiving (Cardona, 2008). In this sense, studies that consider the self-perception of students who are studying through the use of learning technologies (Ramírez & Barragán, 2018) show that academic success in the on-line education system is observed in students with a positive perception of oneself, especially in the academic sphere, while those who doubt about their academic abilities tend to fail in this modality (Rojas & Bolívar 2009).

The empirical evidence on the emotional aspect of students who carry out on-line studies indicates that they present a higher level of emotional well-being than discomfort when studying in this modality (Rebollo et al., 2013). This is expressed through behaviors of enjoyment for learning, satisfaction, pleasure and benefits of using either a tool or technological applications for learning as positive experiences (Ramírez & Barragán, 2018). In addition, it is highlighted that the on-line education scenario provides academic experiences of interaction, interpersonal communication and friendship ties, as well as the feeling of being able to study from anywhere and at any time (flexibility of space and time) as positive aspects, while frustration, failure and shyness can generate feelings of tension, anguish and stress when performing tasks and tests, in relation to some negative moods (Herrera et al., 2009).

Method

The main purpose of the present study is to analyze the relationship between self-concept, school adjustment and emotional intelligence in a sample of on-line high school students, contrasting their levels in each variable, according to the type of course they attended (ordinary or non-ordinary). The ordinary courses refer to the modules that are developed sequentially in the order and schedule established by the study plan, while the non-ordinary courses are those that are retaken by the students to maintain their permanence in the program, that is, to prevent or avoid permanent withdrawal. Additionally, the association of these variables with the students' sex and age was addressed, including the following task-specific objectives: 1. To analyze the relationships between the factors of self-concept, school adjustment and emotional intelligence. 2. To compare the levels between factors according to each type of course 3. To examine the differences by sex and age groups (young, aged 15 to 29 years; adults, aged 30 years and older) (Uriarte, 2007) between factors.

Population and sample

The study population was made up by the students of the National On-line High School Service (*Prepa en Línea-SEP* in Spanish) distributed throughout Mexico. The sample selected by incidental non-probabilistic methods was of 397 students, of which 283 were women (71.3%) and 114 men (28.7%), with a mean age of 30 (SD = 10.66), with 48.4% being classified as young students (aged between 15 and 29 years) and 51.6% considered as adults (aged 30 years and older) (Uriarte, 2007). Most of the students were single (54.4%), living in urban (74.8%), suburban (13.6%) and rural (10.8%) contexts and indigenous (0.8%). Most of them reported studying and working (66.5%).

Measuring instruments

Self-concept Scale (AF-5). This self-report scale developed by García and Musitu (2014) addresses self-concept through 30 numerical scaling items, that is, the response is recorded under a continuous dimension in a 99-point scale ranging from 1 (totally disagree with the item) to 99 (totally agree with the item). The scale is made up of five factors or dimensions of self-concept: academic-work (e.g. "My teachers consider me a good worker"), social (e.g. "I am a friendly person"), emotional, (e.g. "A lot of things make me nervous") family (e.g. "I feel happy at home") and physical (e.g. "They look for me to do sports activities"). Regarding its psychometric properties, adequate internal consistency indices have been evidenced in different studies (Bustos et al., 2015; Ibarra & Jacobo, 2016), both in the total score and in each of its dimensions. Similarly, in this work, satisfactory internal consistency indices were evidenced ($\alpha = .73-.89$).

Brief School Adjustment Scale (EBAE-10). It is a performance instrument developed by Moral et al. (2010) and assesses the degree of adaptation of the student to the school context, his/her perception of performance and the intention of completing the course successfully. It is made up of 10 items and three factors: academic performance (e.g. "I enjoy doing my homework"), interest in attending university (e.g. "I am interested in attending university") and adjustment problems (e.g. "I feel rejected by my classmates"). In particular, this last dimension has an opposite sense to school ad-

justment, since an increase in its value is related to a bad adjustment. To obtain its final score, the direct responses are averaged and for the calculation of the total school adjustment, the items are integrated with the rest, but inversely. The response format is a six-option Likert-type scale (ranging from “completely disagree” to “completely agree”). Different studies have shown satisfactory psychometric properties in the total score and its dimensions (Pérez et al., 2020; Villarreal et al., 2013). Satisfactory levels of internal consistency were also evidenced in this study ($\alpha = .73 - .77$), except in the case of the interest in attending university dimension ($\alpha = .55$).

Emotional Intelligence Scale (TMMS-24). Adapted by Fernández-Berrocal, Extremera and Ramos (2004) from the proposal of Salovey et al. (1995) this scale assesses how people perceive, express, understand and regulate their emotional state. It is made up of 24 items and three related dimensions: emotional attention (e.g. “I usually worry a lot about what I feel”), clarity of feelings (e.g. “I can often define my feelings”), and emotional repair (e.g. “Although sometimes I feel sad, I usually have an optimistic view”). The response format is a Likert-type scale with five options (ranging from “completely disagree” to “completely agree”). Studies such as Antonio-Agirre et al. (2015) and Carpio et al. (2019) confirm satisfactory psychometric properties in the total score and its factors. Similarly, this research confirms satisfactory internal consistency indexes ($\alpha = .89 - .91$).

Data collection and processing

The data collection was carried out at the end of the summer semester (January-June 2020) with the application of the AF-5, EBAE-10 and TMMS-24 questionnaires transferred to the *Google forms tool*. Prior to answering, informed consent for the use of data for exclusively academic purposes was requested. In the specific case of underage participants, an authorization from the parents was requested for access and response to the form, which was kept enabled for a period of 10 days. The estimated response process was of 20 minutes, guaranteeing the principles of anonymous participation and no compensation in exchange for answering.

Later, the database was processed and a descriptive analysis (mean and standard deviation) was executed in the first step. The distribution of the variables was immediately addressed, noting the absence of normality ($p < .05$ in the Kolmogorov test), so a bivariate analysis was developed with non-parametric tests (Spearman's rho and Mann-Whitney U-test). Additionally, an effect size test was added to identify the magnitude of the differences between groups (Rosenthal's r) (Dominguez, 2018).

Results

To present the findings in an orderly manner, a descriptive analysis was performed, taking into account the scores obtained by the participants in self-concept, school adjustment and emotional intelligence. The relationship between these variables and their association with the type of course, sex and age of the students are presented. In this sense, as a first step within the descriptive process, the means and standard deviations of the study variables were calculated for each factor. Table 1 shows these results.

Table 1

Mean and standard deviation of the study variables

Variable	Factor	Scale	Mean	Standard deviation
Self-concept		1-99	69.56	14.67
	Academic-work	1-99	81.67	16.00
	Social	1-99	65.98	21.48
	Emotional	1-99	55.99	25.44
	Family	1-99	81.97	20.27
	Physical	1-99	62.21	21.85
School adjustment		10-60	55.40	4.90
	Academic performance	3-18	15.17	2.49
	Interest in attending university	2-12	11.55	1.22
	Adjustment problems	5-30	6.32	3.03
Emotional intelligence		24-120	91.18	16.29
	Attention	8-40	27.55	7.94
	Clarity	8-40	31.32	7.10
	Repair	8-40	32.31	7.07

After this step, the study variables were correlated. At first, only the total scores for each instrument were considered. Table 2 shows the association values (Spearman's rho).

To deepen into the analysis, a correlation between the dimensions that make up each of the variables was run again. Table 3 shows a summary of these associations.

Next, the levels of self-concept, school adjustment and emotional intelligence were compared according to the type of course, that is, between students in ordinary (first attempt) and extraordinary (retaken courses) situations. Table 4 shows the results.

Age variable was approached in two different ways. At first, a correlation was made between this and the other study variables, finding a link with academic performance ($\rho = .251, p < .01$). This means that the level of achievement increases with an increasing age of the student. To deepen these findings, in a second step, the sample was segmented into two parts: young students (aged between 15 and 29 years) and adults (aged 30 years and older) (Uriarte, 2007) (Table 5).

Table 2

Correlation between self-concept, school adjustment and emotional intelligence.

Variables	Self-concept	School adjustment	Emotional intelligence
Self-concept	-		
School adjustment	.428**	-	
Emotional intelligence	.277**	.275**	-

Note. * = $p < .05$ ** = $p < .01$

Table 3

Correlation between dimensions of self-concept, school adjustment and emotional intelligence

Dimensions	1	2	3	4	5	6	7	8	9	10	11
1. A. Academic	-										
2. A. Social	.447**	-									
3. A. Emotional	.273**	.390**	-								
4. A. Family	.382**	.430**	.285**	-							
5. A. Physical	.411**	.464**	.201**	.362**	-						
6. Academic performance	.564**	.226**	.248**	.257**	.243**	-					
7. Interest in attending university	.148**	.107*	.017	.160**	.123*	.260**	-				
8. Adjustment problems	-.195**	-.185**	-.167**	-.282**	-.180**	-.269**	-.109*	-			
9. Attention	.012	-.119*	-.291**	-.120*	-.036	.068	.191**	.076	-		
10. Clarity	.345**	.316**	.295**	.284**	.311**	.385**	.264**	-.123*	.249**	-	
11. Repair	.325**	.383**	.252**	.350**	.342**	.296**	.267**	-.126*	.169**	.602**	-

Note. * = $p < .05$ ** = $p < .01$

Table 4

Comparison between self-concept, school adjustment and emotional intelligence by type of course

Variable	Factor	Ordinary course	Non-ordinary course	Z	p	r
Self- concept		70.03	68.14	-1.429	.153	.07
	Academic-work	82.91	77.81	-2.790	.005	.14
	Social	66.44	64.57	-.644	.520	.03
	Emotional	57.62	50.90	-2.186	.029	.11
	Family	81.82	82.47	-.142	.887	.01
	Physical	61.35	64.94	-.896	.370	.04
School adjustment		55.89	53.86	-4.491	.000	.23
	Academic performance	15.51	14.10	-5.379	.000	.27
	Interest in attending university	11.53	11.61	-.724	.469	.04
	Adjustment problems	6.16	6.85	-1.663	.096	.08
Emotional intelligence		91.40	90.51	-.321	.748	.02
	Attention	27.48	27.77	-.265	.791	.01
	Clarity	31.56	30.56	-1.022	.307	.05
	Repair	32.35	32.18	-.599	.549	.03

Table 5

Comparison between self-concept, school adjustment and emotional intelligence by age

Variable	Factor	Young	Adults	Z	p	r
Self-concept		67.09	71.89	-3.127	.002	.16
	Academic-work	79.07	84.11	-2.465	.014	.12
	Social	62.38	69.36	-2.838	.005	.14
	Emotional	53.05	58.75	-2.281	.023	.11
	Family	79.32	84.46	-1.817	.069	.09
	Physical	61.65	62.75	-.471	.637	.02
School adjustment		54.50	56.24	-3.588	.000	.18
	Academic performance	14.63	15.69	-3.933	.000	.20
	Interest in attending university	11.53	11.57	-1.222	.222	.06
	Adjustment problems	6.66	6.01	-2.698	.007	.14
Emotional intelligence		89.21	93.03	-1.808	.071	.09
	Attention	28.51	26.66	-2.501	.012	.13
	Clarity	29.78	32.77	-3.934	.000	.20
	Repair	30.92	33.60	-3.487	.000	.17

Discussion and conclusions

The aim of the present study was to analyze the relationship between self-concept, school adjustment and emotional intelligence, as well as to contrast their dimensions according to the type of course, sex and age of students attending on-line high school programs in Mexico.

Regarding the descriptive part of the study, it was found that the participants had high levels of self-concept, highlighting the family and academic-work dimensions. Instead, the emotional factor lagged behind the rest. Similar results are reported in students attending face-to-face courses, where the proportions of self-concept (both in its dimensions with higher or lower scores) are extremely similar (Gargallo et al., 2009; Portillo & Flores, 2020).

On the other hand, the high values in school adjustment and their factors is a situation to point out. In fact, the scores were significantly higher than those reported in other studies (Antonio-Agirre et al., 2015; Pérez et al., 2020). This situation demonstrates an optimal capacity to adapt to the students' academic demands, which could be linked to the flexibility provided by the on-line learning environment so that, with certain self-management strategies, students can successfully organize their work and schedules. Regarding emotional intelligence, although the scores were satisfactory, the repair factor stood out, enabling a greater ability to regulate and control both positive and negative emotions, while the attention dimension was found to be slightly lower.

Regarding the existing relationship between variables, the association between them has been confirmed. The link between self-concept and school adjustment showed the highest correlation coefficient, indicating that, as the self-concept scores increase, the school adjustment scores will behave in a similar way. Although the relationship with emotional intelligence of both variables was also significant and in the same direction, the association strength was slightly weaker. Moreover, when addressing the correlations between each of the dimensions, the association between almost all the constructs was confirmed.

In relation to emotional intelligence, the analysis also showed that the clarity and repair factors were linked to all dimensions of self-concept and school adjustment, in a positive way and with association values between medium and low. This situation is similar to the findings in other studies that have confirmed the importance of emotional intelligence in academic performance, self-concept and even in school commitment (Usán & Salavera, 2019; Valadez et al., 2013; Valenzuela & Portillo, 2018). Although this study did not define any dependency relationship between the study variables, inquiries such as that of Antonio-Agirre et al. (2015) and Herrera et al. (2020) confirm that the academic-work and social dimensions of self-concept, as well as the emotional intelligence factors, are predictors of school adjustment, especially of the academic performance dimension.

On the other hand, when contrasting the variables between the groups of students who were in an ordinary situation (taking courses for the first time) and those who presented a non-ordinary situation, statistically significant differences were found, focused specifically in the academic dimensions, that is, in the total score of school adjustment, the academic performance dimension and self-concept in the academic-work domain. Regarding the emotional aspect, the comparison did not show different levels between student groups, minimizing its effect or influence on student

failure. Studies such as Díaz and Ruiz (2018), Ferragut and Fierro (2012) and Gargallo et al. (2009) presented results that are similar to these findings.

Globally, when contrasting results by sex, some differences were evidenced. First, men showed higher scores in the total self-concept but also in the social, emotional, family and physical dimensions. This situation is similar to studies such as Caldera et al. (2018) where the scores in the emotional and physical dimensions were higher in men. However, in this study and in Alcaide (2009), women showed higher scores in the academic-work self-concept. Regarding school adjustment, no differences between groups were observed.

On the other hand, in relation to emotional intelligence, women showed higher scores than men in the attention dimension. At first glance, this situation could be incompatible with previous findings on emotional self-concept, where men showed higher scores. However, while in this dimension of self-concept the scores increase when showing an emotional domain in different situations, the attention factor of the intelligence scale refers to the identification of emotions, to feel and expressing feelings appropriately. In fact, studies such as Calero et al. (2018) report that women obtain higher scores in attention and men in clarity, while others do not report significant differences between them (Pérez-Bonet & Velado-Guillén, 2017).

Since students attending face-to-face high school programs were generally aged between 15 and 18 years, age is not usually taken into account as a factor to be considered in studies on self-concept, school adjustment and emotional intelligence. However, given the condition of the students attending on-line programs, it was an aspect to be highlighted. At first, it was found that the academic performance factor was positively related to age, that is, the level of performance increases as the student's age increases.

Later, while generating two groups of the sample considering young students (aged between 15 to 29 years) and adults (aged 30 years and older) (Uriarte, 2007), statistically significant differences were found in total self-concept and in its academic-work, social and emotional dimensions. These differences were also observed in total school adjustment, academic performance, and adjustment problems. In all these cases, students aged 30 years or older obtained significantly higher scores than young students, and it even happened in a similar way in the clarity and repair factors of emotional intelligence. These findings are associated with those reported by Barca et al. (2011), Cazalla and Molero (2013) and Reynoso et al. (2018), who indicate that as the age of the subjects increases, they have a more stable self-knowledge. That is, the self-concept is strengthened in the experiences that give meaning and identity to the subjects at different life stages and conditions (Portillo, 2020). The young students only obtained higher scores in the attention factor of emotional intelligence, reflecting a superior ability to identify their feelings, feel them and express them in a better way.

Finally, it should be pointed out the importance of research in the educational field, particularly since this is a study carried out with students attending an on-line modality, which both in its composition and in its dynamics, contain peculiarities that are worth analyzing, also considering that, given the current circumstances, in certain contexts changing to the on-line modality is becoming a necessity. In fact, as mentioned by Rojas and Bolívar (2009), strengthening academic self-concept in students attending on-line programs is crucial to achieve academic success. Furthermore, it is necessary to take into account some of the limitations of the present study including the fact that the information collected came from self-reports, as well as the aspect of

social desirability, which can influence the type of expected responses. In the same way, although it is proposed to compare the situation of students in ordinary and non-ordinary courses, the context in which students with educational lag develop is unknown, so it would be worth studying this condition. Additionally, it is suggested that future studies consider the possibility to integrate other variables into the analysis such as school climate, interpersonal relationships between actors and academic commitment. It is also important for future studies to include the use of more advanced analysis techniques such as multiple regressions and structural equation models.

References

- Alcaide, M. (2009). Influencia del rendimiento y autoconcepto en hombres y mujeres. *Revista Electrónica De Investigación Y Docencia (REID)*, (2), 27-44. <https://revistaselectronicas.ujaen.es/index.php/reid/article/view/1105>
- Azpiazu, L., Esnaola, I., & Ros, I. (2014). Factores contextuales y variables individuales en el ajuste escolar. *Revista INFAD de Psicología. International Journal of Developmental and Educational Psychology*, 6(1), 327-336. <https://doi.org/10.17060/ijodaep.2014.n1.v6.751>
- Antonio-Agirre, I., Azpiazu, L., Esnaola, I., & Sarasa Maya, M. (2015). Capacidad predictiva del autoconcepto y la inteligencia emocional en el ajuste escolar autoperibido. *Bordón. Revista de Pedagogía*, 67(4), 9-25. <http://dx.doi.org/10.13042/Bordon.2015.67401>
- Barca, L., Fernández, M., & Mejía, R. (2011). Autoconcepto y enfoques de aprendizaje: sus efectos en el rendimiento académico en alumnado universitario de República Dominicana. *Revista galego-portuguesa de Psicología e educación*, 19(2), 197-213.
- Bustos, V., Oliver, A., & Galiana, L. (2015). Validación del Autoconcepto Forma 5 en Universitarios Peruanos: Una Herramienta para la Psicología Positiva. *Psychology/PsicologíaReflexão e Crítica*, 228(4), 690-697. <https://doi.org/10.1590/1678-7153.201528406>
- Caldera, J., Reynoso, O., Angulo, M., Cadena, A., & Ortiz, D. (2018). Habilidades sociales y autoconcepto en estudiantes universitarios de la región Altos Sur de Jalisco, México. *Escritos de psicología*, 11(3), 144-153. <http://dx.doi.org/10.5231/psy.writ.2018.3112>
- Calero, A., Barreyro, J., Formoso, J., & Injoque-Ricle, I. (2018). Inteligencia emocional y necesidad de pertenencia al grupo de pares durante la adolescencia. *Subjetividad y Procesos Cognitivos*, 22(2), 38-56. <https://publicacionescientificas.uces.edu.ar/index.php/subypocog/article/view/596/554>
- Cardona, H. (2008). Consideraciones acerca de la educación virtual como comunidad de relaciones afectivo-valorativas. *Revista Iberoamericana de Educación*, 46(7), 1-10. <https://doi.org/10.35362/rie4671915>
- Carpio, M., Cerezo, M., Casanova, P., & García, M. (2019). Perfiles de inteligencia emocional y síntomas externalizantes e internalizantes en la adultez emergente. *Electronic Journal of Research in Educational Psychology*, 17(48), 317-334. <http://dx.doi.org/10.25115/ejrep.v17i48.2298>
- Cazalla, N., & Molero, D. (2013). Revisión teórica sobre el autoconcepto y su importancia en la adolescencia. *Revista Electrónica De Investigación Y Docencia (REID)*, (10), 43-64. <https://revistaselectronicas.ujaen.es/index.php/reid/article/view/991>

- Cazalla, N., & Molero, D. (2016). Inteligencia emocional percibida, disposición al optimismo-pesimismo, satisfacción vital y personalidad de docentes en su formación inicial. *Revista de Investigación Educativa*, 34(1), 241-258. <http://dx.doi.org/10.6018/rie.34.1.220701>
- Cazalla, N, Ortega, F., & Molero, D. (2015). Autoconcepto e inteligencia emocional de docentes en prácticas. *Revista Electrónica de Investigación y Docencia (REID)*, (14), 151-164. <https://revistaselectronicas.ujaen.es/index.php/reid/article/view/2508>
- Correa, F., Saldívar, A., & López, A. (2015). Autoconcepto y estados emocionales: su relación con la motivación en adolescentes. *Enseñanza e Investigación en Psicología*, 20(2), 173-183. <https://www.redalyc.org/articulo.oa?id=292/29242799007>
- Díaz, D., & Ruiz, A. (2018). Reprobación escolar en el nivel medio superior y su relación con el autoconcepto en la adolescencia. *Revista Latinoamericana de Estudios Educativos*, 48(2), 125-142. <https://www.redalyc.org/articulo.oa?id=270/27057946006>
- Domínguez, S. (2018). Magnitud del efecto, una guía rápida. *Educación médica*, 19(4), 251-254. <http://dx.doi.org/10.1016/j.edumed.2017.07.002>
- Fernández-Berrocal, P., Extremera, N., & Ramos, N. (2004). Validity and reliability of the Spanish modified version of the trait meta-mood scale. *Psychological Reports*, (94), 751-755. <https://doi.org/10.2466/pr0.94.3.751-755>
- Fernández-Lasarte, O., Goñi, E., Camino, I., & Zubeldia, M. (2019). Ajuste escolar y autoconcepto académico en la Educación Secundaria. *Revista de Investigación Educativa*, 37(1), 163-179. <http://dx.doi.org/10.6018/rie.37.1.308651>
- Ferragut, M., & Fierro, A. (2012). Inteligencia emocional, bienestar personal y rendimiento académico en preadolescentes. *Revista Latinoamericana de Psicología*, 44(3), 95-104. <https://www.redalyc.org/articulo.oa?id=805/80525022008>
- García, J., & Musitu, G. (2014). *AF5: Autoconcepto forma 5*. TEA
- Gargallo, B., Garfella, P., Sánchez, F., Ros, C., & Serra, B. (2014). La influencia del autoconcepto en el rendimiento académico en estudiantes universitarios. *REOP - Revista Española de Orientación y Psicopedagogía*, 20(1), 16-28. <https://doi.org/10.5944/reop.vol.20.num.1.2009.11436>
- Gutiérrez, M., & Expósito, J. (2015). Autoconcepto, dificultades interpersonales, habilidades sociales y conductas asertivas en adolescentes. *REOP - Revista Española de Orientación y Psicopedagogía*, 26(2), 42-58. <http://doi.org/10.5944/reop.vol.26.num.2.2015.15215>
- Hernández, R., & Mendoza, C. (2018). *Metodología de la Investigación: Las rutas cuantitativa, cualitativa y mixta*. McGraw-Hill.
- Herrera, L., Al-Lal, M., & Mohamed, L. (2020). Academic Achievement, Self-Concept, Personality and Emotional Intelligence in Primary Education. Analysis by Gender and Cultural Group. *Frontiers in Psychology*, 10, 3075. <http://doi.org/10.3389/fpsyg.2019.03075>
- Herrera, L., Mendoza, N., & Buenabad, M. (2009). Educación a distancia: una perspectiva emocional e interpersonal. *Apertura*, 9(10), 62-77. <http://www.udgvirtual.udg.mx/apertura/index.php/apertura/article/view/1200/684>
- Herrera-Ramírez, M., Herrera-Clavero, F., & Ramírez, M. (2007). ¿Qué ocurre entre el autoconcepto y el rendimiento académico, en un contexto pluricultural? *REOP - Revista Española de Orientación y Psicopedagogía*, 18(2), 201-213. <https://doi.org/10.5944/reop.vol.18.num.2.2007.11312>

- Ibarra, E., & Jacobo, H. (2016). La evolución del autoconcepto académico en adolescentes. *Revista Mexicana de Investigación Educativa*, 21(68), 45-70. <http://www.comie.org.mx/revista/v2018/rmie/index.php/nrmie/article/view/60/60>
- Moral, J., Sánchez, J., & Villareal, M. (2010). Desarrollo de una Escala Multidimensional Breve de Ajuste Escolar. *Revista Electrónica de Metodología Aplicada*, 15(1), 1-11.
- Pérez-Bonet, G., & Velado-Guillén, L. (2017). Inteligencia emocional percibida (IEP) en el alumnado universitario de educación. Análisis comparativo por género y grado. *EA, Escuela abierta*, 20, 23-34. <https://doi.org/10.29257/EA20.2017.03>
- Pérez, I., Zamora, M., Caldera, J., Reynoso, O., García, A., & Mora, O. (2020). Ajuste escolar, clima escolar y apoyo social en bachilleres. *Revista de Psicología y Ciencias del Comportamiento de la Unidad Académica de Ciencias Jurídicas y Sociales*, 11(1), 5-18. [10.29059/rpcc.20200617-100](https://doi.org/10.29059/rpcc.20200617-100)
- Portillo, S. (2020). Los otros significativos en la construcción del sí mismo. *Utopía y Praxis Latinoamericana*, 25, 152-161. <https://produccioncientificaluz.org/index.php/utopia/article/view/32856/34476>
- Portillo, S., & Flores, G. (2020). Relevancia del autoconcepto en el estudiantado normalista. *Educación y ciencia*, 9(53), 118-127.
- Ramírez, U., & Barragán, J. (2018). Autopercepción de estudiantes universitarios sobre el uso de tecnologías digitales para el aprendizaje. *Apertura*, 10 (2), 94-109. <http://dx.doi.org/10.32870/Ap.v10n2.1401>
- Rebollo, M., García, R., Buzón, O., & Vega, L. (2013). Las emociones en el aprendizaje universitario apoyado en entornos virtuales: diferencias según actividad de aprendizaje y motivación del alumnado. *Revista Complutense De Educación*, 25(1), 69-93. https://doi.org/10.5209/rev_RCED.2014.v25.n1.41058
- Reynoso, O., Caldera, J., De la Torre, V., Martínez, A., & Macías, G. (2018). Autoconcepto y apoyo social en estudiantes de bachillerato. Un estudio predictivo. *Revista de Psicología y Ciencias del Comportamiento de la Unidad Académica de Ciencias Jurídicas y Sociales*, 9(1), 100-119. <https://doi.org/10.29365/rpcc.20180529-66>
- Rojas, F., & Bolívar, J. (2009). Autoconcepto estudiantil y modalidades de enseñanza a Distancia (b-learning y e-learning). *Paradigma*, 30(2), 99-112. <http://revistas.upel.digital/index.php/paradigma/article/view/2015/880>
- Salovey, P., & Mayer, J. (1990). Emotional intelligence. *Imagination, Cognition, and Personality*, 9(3), 185-211.
- Salovey, P., Mayer, J., Goldman, S., Turvey, C., & Palfai, T. (1995). Emotional attention, clarity, and repair: exploring emotional intelligence using the Trait Meta-Mood Scale. In J. Pennebaker, *Emotion, disclosure, and health* (pp. 125-154). American Psychological Association.
- Santana, L., Feliciano, L., & Jiménez, A. (2014). Autoconcepto académico y toma de decisiones en el alumnado de bachillerato. *REOP - Revista Española de Orientación y Psicopedagogía*, 20(1), 61-75. <https://doi.org/10.5944/reop.vol.20.num.1.2009.11440>
- Shavelson, R., Hubner, J., & Stanton, J. (1976). Self-concept: Validation of construct. *Review of Educational Research*, 46(3), 407-441. <https://doi.org/10.3102/00346543046003407>
- Uriarte, J. (2007). Autopercepción de la identidad en la transición a la edad adulta. *Revista de Psicodidáctica*, 12(2), 279-292. <https://ojs.ehu.eus/index.php/psicodidactica/article/view/225>

- Usán, P., & Salavera, C. (2019). El rendimiento escolar, la inteligencia emocional y el engagement académico en una muestra de escolares. *Electronic Journal of Research in Educational Psychology*, 17(47), 5-26. <http://dx.doi.org/10.25115/ejrep.v17i47.1879>
- Valadez, M., Borges, M., Ruvalcaba, N., Villegas, K., & Lorenzo, M. (2013). La inteligencia emocional y su relación con el género, el rendimiento académico y la capacidad intelectual del alumnado universitario. *Electronic Journal of Research in Educational Psychology*, 11(30), 395-412. <http://dx.doi.org/10.14204/ejrep.30.12204>
- Valenzuela, A., & Portillo, S. (2018). La inteligencia emocional en educación primaria y su relación con el rendimiento académico. *Revista Electrónica Educare*, 22(3), 1-15. <https://doi.org/10.15359/ree.22-3.11>
- Villarreal, M., Sánchez, J., & Musitu, G. (2013). Análisis psicosocial del consumo de alcohol en adolescentes mexicanos. *Universitas Psychologica*, 12(3), 857-873. <http://dx.doi.org/10.11144/Javeriana.UPSY12-3.apca>