


Online collaborative work model from a socio-emotional perspective

Modelo de trabajo colaborativo online desde la perspectiva socioemocional



 Adolfo Montalvo García - *Universitat Autònoma de Barcelona, UAB (Spain)*

 Santiago Ávila Vila - *EAE Business School (Spain)*

 Frank Longo - *EAE Business School (Spain)*

ABSTRACT

It cannot be assumed that a group of students will automatically work collaboratively on an assignment. To facilitate this level of collaboration (so professors could evoke it) it is essential to understand how this academic interaction takes place. The purpose of this research is to validate a model of factors that provide us with an understanding, from a socioemotional perspective, of how students contribute to the dynamics of their group work. The sample is composed of 722 students from master's programs in management. The questionnaire utilized in this research was mostly comprised of items taken from highly recognized instruments measuring emotional intelligence. The proposed factors include: Self-control, Personal influence, Comprehensive communication, Teamwork, and Conflict management. A Confirmatory Factor Analysis was used to test the model. Significant differences were seen between females and Teamwork, Personal influence, and Comprehensive communication. Additionally, significance was evidenced between those over 30 years of age and Conflict management, Teamwork and Personal influence. The results provide insight into how to: a) elevate and improve this pedagogical dimension in higher education, and b) provide better guidance to students, allowing them the opportunity to improve their contribution to the teamwork they do and therefore increase the quality of their work.

Keywords: teamwork; emotion; self-control; social influence; communication; conflict.

RESUMEN

El hecho de que un grupo de estudiantes *online* trabaje de forma conjunta en un cometido académico no es sinónimo de que lo hagan colaborativamente. Para que los alumnos se puedan desempeñar de esa forma (y que los profesores la puedan llegar a evocar), obteniendo así unos mejores resultados de su aprendizaje, resulta imprescindible comprender cómo se sucede esta interacción académica. La finalidad de esta investigación es validar un modelo de factores que permita entender cómo aportan los estudiantes a sus dinámicas de trabajo en equipo desde una perspectiva socioemocional. La muestra está compuesta por 722 estudiantes de masters de *management*. Se cursa un cuestionario que está integrado en su mayoría por ítems extraídos de instrumentos que son referente de la medida de la inteligencia emocional. La propuesta de factores se concreta de la forma siguiente: Autocontrol, Influencia personal, Comunicación integral, Trabajo en equipo y Gestión de conflictos. El modelo obtenido se comprueba ajustado mediante Análisis Factorial Confirmatorio. Se observan diferencias significativas entre sexo femenino y Trabajo en equipo, Influencia personal y Comunicación integral; así como entre mayores de 30 años y Gestión de conflictos, Trabajo en equipo e Influencia personal. Los resultados arrojan luz sobre como: a) plantear y mejorar esta dimensión pedagógica en la universidad; b) procurar una mejor orientación al alumnado para que este mejore su particular contribución a los trabajos de equipo.

Palabras clave: trabajo en equipo; emoción; autocontrol; influencia social; comunicación; conflicto.

INTRODUCTION

Face-to-face teamwork is already complicated, but conducting it online adds further to that complexity. Online learning does not offer a natural and immediate possibility of redirecting emotions in an emotionally intelligent way as can be done in face-to-face learning when moments of tension occur. Furthermore, in this type of training, the interpretations that each person makes of what is happening leads to errors in the common establishment of causes and work patterns (Järvelä & Bannert, 2021). In a university environment, poorly managed teamwork leads to frustration and stress (Bourner et al., 2001). Currently, there is still a need for a development of greater knowledge and better tools that allow students to enjoy more appropriate social and emotional support (Saccardi & Masthoff, 2023).

The more common behaviors exhibited in a university setting aligns with the type of interaction that regularly occurs between any individual and their environment. The diversity that occurs in any group (e.g., culture, gender, age, education, political preferences, or social influence on others), can lead to the formation of smaller subgroups (Saccardi & Masthoff, 2023). These subgroups are based on the socio-emotional bonds established by group members (Huang & Lajoie, 2023). In collaborative learning, social-emotional exchanges play a fundamental role in shared social regulation (Nguyen et al., 2023), therefore contributing to the maintenance of healthy positive emotional relationships (Huang & Lajoie, 2023). Helping others and providing information are behaviors that foster interactive social presence and result in greater emotional co-regulation (Huang & Lajoie, 2023). The quality of the social-emotional interactions has an impact on collaboration and academic results (Zhang et al., 2021), while cause-emotions could trigger other emotion-effects. In turn, those ensure that progress can be made towards the objectives set in the collaborative task (Järvenoja & Järvelä, 2005). Groups of students who nurture the socio-emotional dimension of their interaction stay cohesive and ensure that the relationship is respectful (Rogat & Adams-Wiggins, 2015).

Positive socio-emotional interactions that are generated in a group condition incline the collective to perceive its own members as better collaborators, while encouraging the team to work as a community (Zhang et al., 2021). Therefore, more continuous and fluid regulation occurs in a high-performing team compared to a low-performing group, where there is a tendency for repeated regulatory behavior (Su et al., 2018). What emerges are respect, mutual support and dedication, as indispensable conditions for community work (Rogat & Adams-Wiggins, 2015). Close relationships among group members can foster a culture where empathy is valued and appreciated, resulting in a higher level of commitment (Yu et al., 2023). The present research proposes a model that takes into account the individuality of each student in a team, since many of the challenges that are linked to successful team development occur due to the attitudinal predisposition of its members (Saccardi & Masthoff, 2023). The emotional dimension does not escape the Input-Process-Output model, where an emotional input will condition the outcome of the process faced by the group, and finally the output achieved (Bonny, 2023). Where students who are competent leaders contribute to peer interaction thus contributing to a harmonious learning atmosphere and group cohesion the ultimate result can be found in better academic performance and learning satisfaction (Huang et al., 2010). From a socio-emotional perspective, being a good team member means complying with all the proposed factors, since

people are constantly looking for social support, especially in situations of greater difficulty, such as those in an academic setting. (Saccardi & Masthoff, 2023).

Proposed factors

The first factor considered corresponds to Conflict Management. In teams, three types of conflict are identified: relational conflict, when there is interpersonal tension among team members; process conflict, when there is no quorum on how to distribute work and resources; and task conflict, which takes the form of holding different opinions on how to do the work. From this triad, relational conflict most directly affects the functioning of the team (Baird & Benson, 2022) since it lowers morale and makes it difficult to focus on the work to be done. This ultimately means lower satisfaction and performance. Having a reputation as an effective leader and follower is negatively related to being seen as a creator of conflict within the team. Individuals who establish a reputation for collaborative and cooperative interpersonal behavior are less likely to be involved in subsequent negative interactions. On the other hand, dysfunctional leader-follower dynamics have the potential to derail team functioning and create a toxic social environment (Baird & Benson, 2022).

A second factor, Personal Influence within the team, emphasizes the contribution of each person to the collective, which is enhanced by each member shining individually. This contributes from both intrapersonal and interpersonal perspectives (Gardner, 1983). This factor also has to do with helping others to effectively manage their experience (Wetcho & Na-Songkhla, 2022). This is done in such a way that the emotional connection between the members of a team ends up shaping the perception of the work environment, while influencing the emotional expressions that follow in a dynamic way. From the literature, the concept of Early Active Collaborator is designated to those team players who foster a sense of community, who share their problems, and who develop social bonds with the rest of the members (Huang & Lajoie, 2023). Wang et al., (2022) concluded that workers with high interpersonal influence are more likely to develop psychological safety, which subsequently makes it easier for them to deal with problems.

The third factor of the proposal is Comprehensive Communication, which is key to reaching deep learning through the serene and calm presentation of the different alternatives and analysis presented by the team members (Blau et al., 2020). Additionally, Montalvo-García et al., (2022) present a Comprehensive Online Communication Model that considers verbal and nonverbal dimensions as complementary in the creation of knowledge within the framework of constructivist paradigms. In this sense, emotional support also includes the type of communication that is aimed at helping others to manage their negative emotions (Burlerson, 2003). Communication between collaborators becomes a very relevant issue since virtual teams are subject to long waiting times which are a result of their asynchronous nature (Yu et al., 2023). This awakens in the expectant student different types of emotions, as well as multiple interpretations of what may be happening until an answer is obtained. Likewise, it plays a decisive role in the synchronous part of online training, since the facial expressions of the colleagues collaborating virtually in real-time function as important emotional inputs of nonverbal communication (Bonny, 2023).

The fourth factor corresponds to Self-control, which is key when facing demanding social situations. Online students with high self-control have the ability to modulate

the attention of their academic experience in an intelligent and advantageous way (Montalvo & Ávila, 2023). Transmitting calmness, instead of negative emotions, to others is a valuable contribution, as it contributes to team balance. Therefore, Self-control is a socio-emotional competence present in the practice of all theoretical models. The most common form of emotional regulation is called “poor”, which in professional environments corresponds to the manifestation of the external suppression of emotion (Gagnon & Monties, 2023). That leaves the person feeling uncomfortable which will affect their future involvement in the team, and subsequently in their results. Self-control has other expressions beyond a timid personality that avoids defending one's own interests (poor category) and is then recognized as one of the constituent elements of self-leadership (Goleman, 1999).

The fifth factor encompassed in this proposal is Teamwork. Montalvo and Ávila (2023, p. 124) define it as the “cooperation with others, contributing to maintain adequate relationships for online teamwork”. Therefore, collaborative teams need to incorporate trust and cohesion into their processes to achieve intended goals, as well as nurturing relationships (Montalvo & Ávila, 2023), ones that are seen when the group shares in the success of each individual and sees it as good for the collective (Mesa Rave et al., 2023). Traditional leadership studies focused on the study of specific individuals identified as leaders. However, from a social psychology perspective, there is also a growing trend in addressing the issue of shared leadership, when exploring the dynamic exchange of the leader's role within a team (Baird & Benson, 2022). In our complex and changing environments, shared leadership is a necessity to be able to embrace diverse perspectives, dynamics that a sole leader could not handle. In the shared leadership model, the power and knowledge are shared among the members of the group. Leveraging the contributions of each of the members results in greater innovation. Baird and Benson (2022) support the idea that follow-up is a necessary component of the shared leadership model. It is useless to produce proposals that are not implemented; moreover, implementation without reflection doesn't contribute to learning. From this perspective, mutual exchange of influence will only work if the members are committed to allowing themselves to be influenced. Analyses of social relationships reveal that shared leadership occurs when a teammate is seen as both an effective leader and effective follower (Baird & Benson, 2022).

METHOD

Participants

The questionnaire was completed by 722 students. The mean age of the sample was 30.62 years; 385 (53.3%) were female and 337 (46.6%) were male. In relation to age distribution: 181 students were under 26 years old (25%); 217 students were between 26 and 30 years old (30%); 167 students were between 31 and 35 years old (23.1%); 87 students were between 36 and 40 years old (12%); 42 students were between 41 and 45 years old (5.8%); and 28 students were over 45 years old (3.8%). Analyzing country of origin yielded: Spain, 267 (36.9%); Peru, 114 (15.7%); Colombia, 95 (13.1%); other Spanish-speaking countries in the Americas, 215 (29.7%); other European countries, 19 (2.6%); and other countries in the world, 12 (1.6%).

Instrument

Table 1 is composed of essential items from instruments that are considered as benchmarks in Emotional Intelligence. Only two items related to giving feedback are provided, since this issue was not covered by the existing questionnaires already mentioned. Table 1 reports the factors, their constituent items, as well as their origin. Consistent with all the questionnaires cited in this work, the resulting questionnaire falls into the category of self-reported instruments, where the student responds by carrying out a process of personal introspection. It was prepared using a Likert scale 1-10, where 1 means "Strongly disagree" and 10 means "Strongly agree".

Table 1
Factors, Items and Their Origins

Factor	Ítem	Origin of the Instrument
Self-control	I can stay calm with I'm upset. I'm a self-controlled person.	Bar-On, 1997
	It's easy for me to relax.	Bisquerra & Pérez-Escoda, 2007
	When my mood isn't too good, I try to do activities that I find enjoyable.	
	When I overthink things, complicating them, I try to calm down.	Fernández-Berrocal et al., 2004
Personal Influence	I tend to encourage others.	Goleman et al., 1999
	I am able to influence other people's feelings.	Petrides, 2009
	People trust me easily.	Schutte et al., 1998
	In my life, I develop satisfactory social relationships, on which affection can be inferred.	Bar-On, 1997
	It's easy for me to notice how others are feeling.	Bisquerra & Pérez-Escoda, 2007
Comprehensive Communication	When I see someone doing something wrong, I'm able to help them by talking to them so they can get better.	Own items
	I am good at giving <i>feedback</i> , even when it's negative for the person receiving it.	
	I am aware of the non-verbal information I convey to others.	Schutte et al., 1998
	I make a good gesture to convey my meanings.	Fitzgerald, 2013
	I can give good answers to difficult questions.	Bar-On, 1997
Teamwork	I tend to strengthen cooperation and that makes me a good team player.	Goleman et al., 1999
	I am very clear about I want and I share it with others.	Bar-On, 1997
	I am glad to do things for others.	
	I am a collaborator in the groups I'm in.	
	I am flexible to change my behavior by adapting to new situations.	
Conflict Management	In general, I am able to cope with stressful situations.	Petrides, 2009
	I consider myself a good negotiator.	Schutte et al., 1998
	When I have a positive attitude, solving problems is easy for me.	
	I don't give up on a problem until I solve it.	Bar-On, 1997
	I tend to make it easy to resolve disagreements.	Goleman et al., , 1999

The instrument also included control variables: sex and age, which were coded as dummy variables: female=1, male=2; equal to or younger than 30 years old=1, older than 30 years old=2.

Procedure

In September of 2023, management students enrolled in online programs from EAE Business School, with campuses in Barcelona and Madrid and accessed a digital questionnaire through a voluntary response link. It was distributed at the end of an Introductory Workshop, that marks the beginning of their studies. The workshop focused on two items: a) the constructivist pedagogical model of training, requiring students to collaborate both in the synchronous and asynchronous stages of teamwork, and b) the importance of social learning and collaboration in management studies, considered within the field of Social Sciences.

Data Analysis

Compliance with the normality condition was analyzed by means of the absolute values of symmetry, between 0 and 2, and kurtosis, between 0 and 7, which provide evidence of a normal distribution (Curran et al., 1996).

The goodness of fit of the model was calculated from the chi-squared (χ^2)/DF index (in AMOS: CMIN/DF); the values considered adequate are within the range 2:1 or 3:1, between the sample size and the degrees of freedom. In turn, the RMSEA index determines the covariance structures, resulting in a good fit when it is situated at values below 0.08. For its part, the GFI index, on the goodness of fit in the variance-covariance ratio, recommends values above 0.90. Finally, the PGFI or parsimonious goodness-of-fit index was calculated, which considers values above 0.60 to be adjusted, since they show good parsimony (Montalvo & Ávila, 2023).

In addition, the reliability of the factors was also estimated with Cronbach's α , with α values between 0.7 and 0.9 being accepted as indicators of good internal consistency (Montalvo & Ávila, 2023). To test the theoretically predicted relationships, SPSS 24 and SPSS Amos 25 were used, with the maximum likelihood option in the case of Confirmatory Factor Analysis (CFA).

RESULTS

Descriptive Statistics

The absolute values of symmetry and kurtosis are within the referred intervals (0-2 for symmetry and 0-7 for kurtosis), which makes possible the use of parametric tests (Curran et al., 1996). Table 2 presents the means, standard deviations, correlations and significance levels between variables. It can be seen that the control variable sex, correlates with Teamwork ($r = -0.17$, $p < 0.01$), Personal Influence ($r = -0.16$, $p < 0.01$), and Comprehensive Communication ($r = -0.21$, $p < 0.01$). Additionally, the variable age shows significant differences with Conflict Management ($r = -0.17$, $p < 0.01$), Teamwork ($r = -0.10$, $p < 0.01$), Self-control ($r = -0.10$, $p < 0.01$), and Personal Influence ($r = -0.08$, $p < 0.01$). It is important to note that the correlations between all the variables included in the theoretical proposal of this study always present a high significance between them.

Table 2
Descriptive Statistics and Correlations

	Average	DE	1	2	3	4	5	6	7
1. Sex	1,46	,49	1	-,018	-,054	-,177**	-,036	-,163**	-,209**
2. Age	1,44	,49	-,018	1	,171**	,102**	,097**	,082**	,065
3. Conflict Management	42,42	4,93	-,054	,171**	1	,640**	,535**	,562**	,469**
4. Teamwork	42,43	5,04	-,177**	,102**	,640**	1	,672**	,612**	,457**
5. Self-control	38,46	6,72	-,036	,097**	,535**	,672**	1	,451**	,381**
6. Personal Influence	33,46	3,86	-,163**	-,163**	,562**	,612**	,451**	1	,492**
7. Comprehensive Communication	36,03	5,21	-,209**	-,209**	,469**	,457**	,381**	,492**	1

Note: **p < 0.01

Confirmatory Factor Analysis

Table 3 provides a summary of the fit of the three models used. It is based on Gardner (1983), who distinguished for the first time between the intrapersonal and interpersonal planes, providing a more comprehensive perspective of people's performance. Combining the Teamwork and Conflict Management factors into a single factor, results in a 4-factor model that corresponds to M2. Conversely, to conceptualize M3, the intrapersonal factors (Self-control, Personal Influence and Comprehensive Communication) are amalgamated into a single factor.

Table 3
Summary of Fit Indices of Structural Equation Models

Model	Description	χ^2	gl	CFI	GFI	PCFI	RMSEA
M1	Model with 5 factors	720,082	256	,915	,921	,781	,050
M2	4-factor model; Interpersonal Factor + Self-Control + Personal Influence + Comprehensive Communication	755,826	260	,909	,918	,788	,051
M3	Model with 3 factors; Intrapersonal factor + Teamwork + Conflict Management	939,050	263	,876	,893	,768	,060

Although both M1 and M2 present an adequate fit, M1 corresponds to the model that presents the best indicators in the CFA (Chi-square = 720.082; Degrees of freedom 256; CFI 0.915; GFI, 921; PCFI 0.781; RMSEA 0.050). Consequently, this model is selected as it empirically reports the best adjustments to the theoretical proposal included in this research.

Finally, the results of Cronbach's alphas (α) confer reliability to M1, although the Personal Influence factor is very slightly below 0.7, specifically at 0.687. The rest of the factors do lie above the 0.7 as follows: Comprehensive Communication 0.724; Self-control 0.723; Conflict Management 0.703; and Teamwork 0.721.

DISCUSSION

The results of this study highlight which socio-emotional factors affect the collaborative dynamics of students enrolled in an online educational program. These dynamics are usually overlooked by professors, even though the effectiveness of academic work is related to a well-executed process, in which greater cohesion among group members leads to better results (Beal et al., 2003). Therefore, the model obtained in this study broadens the range of possibilities for working on the socio-emotional dimension of online collaborative learning.

On the other hand, Huang and Lajoie (2023) in a meta-study conclude that the most frequent way to measure these results is through qualitative studies. That involves coding students' behaviors from video recordings or from the interpretation of their asynchronous communication, combined with self-reported questionnaires. In this sense, the present work provides a model consisting of the following factors:

- A. Conflict Management
- B. Emotional Self-control
- C. Personal Influence
- D. Comprehensive Communication
- E. and Teamwork

From a socio-emotional perspective, this model offers a good fit and makes it possible to evaluate the level of collaboration from each member of a remote team. At the same time, it also overcomes the difficulty pointed out by these authors on how to replicate the codes of interpretations in subsequent studies with larger and geographically different populations.

- A. Analyzing the Conflict Management factor. From an emotional perspective, this model can be used to understand how existing work dynamics present problems from the outset. This model can also be used to proactively detect when group processes begin to deteriorate or lose cohesion, which allows for the identification, interpretation and avoidance of socio-emotional problems that may present as teams progress in achieving an academic goal (Bonny, 2023). When working in a team, it is common for one or more students to report that members are not displaying appropriate attitude or behavior consistent for collective responsibility. Having a socio-emotional model that defines the appropriate characteristics for collaboration is crucial, as it identifies which behaviors should be observed and implemented for the effective development of the academic process. By reinforcing a committed and collaborative culture, disruptive students ('bad apples') (Baird & Benson, 2022) will find it more challenging to derail the team dynamics. The goal is to reduce the number of disruptive students who display toxic behaviors – such as not being punctual, skimping on effort, spreading a negative attitude, and not fulfilling what has been agreed upon – thus enhancing the overall effectiveness of the team. Incorporating Conflict Management, a critical and unavoidable dimension in small teams, into this model clarifies realistically its importance to students. Team members emotionally experience disagreements within their groups, leaving them unable to integrate differing personal perspectives on immediate actions or ongoing problems they are facing (Näykki et al., 2014). Likewise, the

model also illustrates how positive social interaction helps to eliminate disagreements and encourages team collaboration, resulting in increased commitment when facing difficulties (Hu et al., 2021). Ultimately, metacognitive awareness about the existence of functional and dysfunctional conflicts contributes to experiencing problems as natural and essential, fostering a collective effort to emerge stronger. By remaining united, teams are able to overcome difficulties and become stronger, as seen in the constructive conflict (Baird & Benson, 2022). Online collaborative work at university is no exception to the Tuckman Model (Zirar et al., 2023), which states that to operate as a high-performance team, members will always need to overcome their own storms (storming stage). In this sense, research confirms how conflicts become beneficial with proper emotional regulation (Griffith et al., 2014).

- B. On the other hand, in relation to emotional Self-control, it contributes to good work dynamics where reason dominates emotion. These two dimensions flow in parallel and reciprocally reinforce each other, with an essential requirement being that reason dominates in academic work. These results make it possible to extend the literature that already establishes that shared emotional regulation by team members promotes positive socio-emotional interactions leading to improved performance (Kazemitabar et al., 2022). Zhu et al. (2020) point out the importance of managing social interactions in an online training modality. They highlight that information on this factor is essential to anticipate the attitude of students and predict how they will approach their academic work in the online part of the curriculum, where the professor is present virtually. The university should also provide a space where students can demonstrate their responsibility, for example, through conscious and well considered decisions, or by staying focused on their academic tasks beyond possible distractions. Additionally, this environment should be making it possible to progress in socio-emotional competencies such as Self-control, a key in self-leadership and recognized in the European Higher Education Area as generic or transversal competencies (Montalvo-García, 2021). Self-control is also crucial in any facet of life beyond university.
- C. The Personal Influence factor is the determining factor in team dynamics. Individuals who create a positive motivational climate and offer strong support for their teammates are valued. Their ability to collaborate and overcome obstacles during the most intense periods of academic work is recognized and valued. The motivational climate of a professional team is a decisive factor in its creativity (Zhao et al., 2023). In the same way, it appears evident that university academic teams also benefit from Comprehensive Communication. Adding the socio-emotional perspective fosters harmony. That harmony facilitates a better disposition to the work satisfaction and directly correlates to higher quality results. Likewise, when individuals feel motivated and valued, it is easier for them to share their ideas, knowledge and resources, contributing to originality and innovation. This promotes a strong sense of belonging and emotional bonding. Zha and Ottendorfer (2011) found that those students who served as leaders in collaborative work were more cognitively active than the rest of the members in online discussions. A good motivational climate creates an environment of trust and shared respect, where the members perceive the team as a whole and expect

them to work ethically. Furthermore, this key factor of the model obtained is valuable, since an adequate motivational climate contributes to the reduction of internal conflicts, mitigating tensions and enhancing the team's capacity to handle disagreements in a constructive manner.

- D. Regarding the factor of Comprehensive Communication, this factor being part of the model obtained correlates with previous research that establishes a relationship between communicating in an appropriate manner and the achievement of the intended objectives (Kazemitabar et al., 2022). Comprehensive Communication is the main tool that teams use to reach academic goals. It encompasses not only the transmission of content or the exchange of information, but also the creation of cognitive and social links (Mesa Rave et al., 2023). In the present study, this factor (and therefore in the Model) captures information about expressing oneself adequately, defending one's own ideas assertively, and displaying empathetic listening to the rest of the teammates. The nonverbal part is key when interpreting the phenomenon that occurs when a group of students collaborate virtually. Understanding the communicative act as a complex process, in the online modality, can be explained by seven factors: conscious direction, self-efficacy, positive affect, emotional regulation, empathy and feedback, influence and assertiveness, and transcendent leadership (Montalvo-García et al., 2022). Therefore, both synchronous and asynchronous e-contacts define the degree of understanding among the members of a team (Montalvo-García et al., 2022). They enhance the academic process and the results reached by the teams. Communication is the tool to make oneself understood, a necessary preliminary step. It allows colleagues to complement our proposal with their part of the work or to understand precisely what our colleagues expect from us; in other words, to make progress. In short, it is a matter of creating a space for virtuous work (Aristotle).
- E. The last factor included in the validated model is Teamwork. The results of this study coincide with Contreras et al. (2020) who conclude the need for the members of a remote online team to coordinate in a well-aligned manner with a shared purpose. This type of collaboration makes it possible to overcome geographical barriers and collaborate with colleagues spread halfway around the world. In this research, the international sample is composed mainly of students from multiple Latin American countries, where it is necessary to overcome the difficulty of having to cooperate in different time slots and from culturally diverse backgrounds. Successfully completing a process of this nature results in personal enrichment, while providing students with experience in the global professional environment which is characteristic of the dynamics of the contemporary working world, which in many cases involves the same collaborative and communication tools, along with obvious project management similarities. Properly conducted, online teamwork should draw from different perspectives around the world. According to the constructivist paradigm, this approach leads to a richer learning experience.

In relation to the control variables included in this study, the results show that the female sex scores were significantly higher in the factors, Teamwork and Personal Influence. This is consistent with the literature that establishes higher levels of emotional intelligence oriented to transformational leadership (Hsu et al., 2022). Where shared common goals are required, there is a higher degree of collaboration

working virtually, as well as a greater willingness to actively participate in virtual teams. Additionally, women also communicate comprehensively with significant differences which translates into increased empathy with others, along with a greater orientation to relational communication.

On the other hand, significant differences have been identified between the group of people over 30 years of age and Conflict Management. It can be interpreted that having greater experience and going through more difficulties in life led to a more mature and balanced approach. Likewise, a longer life means exposure to more diverse opinions and ways of thinking, which can translate into greater tolerance and respect for others. Over the years, one gains resilience and patience, which provides the calmness necessary to constructively address problems in tense situations. Furthermore, the sample group composed of those over 30 years of age correlates significantly with the Teamwork and Personal Influence factors. This finding aligns with the idea that a team with more experience understands better the benefits of collaboration compared to a younger and inexperienced team. They can express ideas clearly and listen assertively, taking into account the perspectives of others during the academic collaborative process, contributing to the common good and the team's progress. The experience usually goes hand in hand with a sense of commitment and responsibility. Significant differences are also identified between those over 30 years of age and Self-control, a trait that can be acquired from experience in managing complicated situations. Each experience involves experiential learning and gaining in the development of more advanced emotional skills. Greater emotional awareness contributes to the ability to manage emotions more effectively by avoiding impulsive reactions and focusing on long-term goals. More experience contributes to better handling of ambiguity and uncertainty in a more constructive way.

Future research should verify whether the results of this study can be extrapolated beyond the world of Spanish-speakers, given that underlying there is a very similar cultural substrate that may not be replicable in another cultural environment. That may require specific refinements. Likewise, they may complement the model (M1) reported in this study with software that makes it possible to collect data on facial expressions, head movements, gestures, postures, or tone of voice (Huang & Lajoie, 2023). It is agreed that future research should shed light on the dynamic patterns of socio-emotional interactions (Huang & Lajoie, 2023), beyond an individual approach, like the one presented. It is necessary to continue investigating how socio-emotional awareness is formed and how emotional regulation develops at team level (Huang & Lajoie, 2023).

CONCLUSIONS

Being an online student presents a different way of collaborating when working as a team. Synchronous and asynchronous technology-mediated interactions, change both the connection and the emotional management of students. In this sense it is necessary to know in more depth how these remote work dynamics can be optimized to propose a better educational experience and enhanced learning. The results of this research conclude two main findings: a) A model that allows us to realize what socio-emotional characteristics each student should have based on the factors that promote being a good team player. In this subsidiary way it will be possible to diagnose the degree of development of each member. b) From an organizational point of view, this can contribute to the design of training programs that give more consideration and

encouragement to students. Universities must pay more attention and monitor more seriously what happens with team dynamics. It is a fundamental part of the curriculum offered, in addition to the fact that it can become fundamental training for the professional future. Its students, who upon finishing university, will join a complex, digital labor market with increasingly flatter structures and so knowing how to collaborate virtually becomes an essential dimension for any professional.

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