



## Rethinking international cooperation in Higher Education Institutions, in the post COVID world from the student's perspective

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### ABSTRACT

The University must be a representation of fundamental values such as trust, democracy, honesty, humility, justice and freedom. Above all, the basic ones for this research, such as respect, responsibility and solidarity, are the foundation of what it means to help those who need it most. Knowledge must always be the guarantor of human beings welfare, discovering new ways to meet their needs and improve their quality of life. Its role is especially important due to the health, social and historical crisis facing our planet.

This work has been carried out with the implementation of a real case study based on the recreation and management of a real development aid activity from a financial and accounting view. Together with the case a subsequent questionnaire has been designed and passed among students of several Higher Education Degrees and Double Degrees, from six different Universities, with the aim of comparing the motivation and interest in development cooperation of university students. This analysis has been done in two very different moments and situations, the time before COVID and the time after the appearance of the pandemic.

With the data collected, a multivariate analysis was carried out, obtaining very interesting results. Among the most remarkable results we can highlight that all students agreed they have reconsidered how to help emerging economies after the COVID crisis. Moreover, students participated and learned more in the seminars about international cooperation, as well as felt more committed towards international cooperation. Instead students did not think more subjects of international cooperation were needed in their degrees. More research about COVID impact must be done in the following years.

### 1. Introduction

This research arises as a continuation of a previous work, in which very interesting results were obtained on the role of Higher Education Institutions (HEIs) in Education for Sustainable Development (ESD) (Urquía-Grande et al., forthcoming). The aim of the previous research was to involve young people to feel more sensitive to inequalities and, therefore, in search of a fairer world. This current research focuses on the differences between these analyses before and after COVID-19.

The appearance of the SARS-CoV-2 coronavirus, responsible for the disease known as COVID-19, in January 2020, and its global expansion to a large number of countries, led to the viral outbreak being classified as a pandemic by the World Health Organization (WHO) on March 11, 2020 (World Health Organization, 2020). The pandemic has affected all

areas of the people's lives: health, family, social relationship, work and economy. The pandemic has changed the world, creating the need for new actions from society including the Higher Education Institutions (Alvarez-Risco et al., 2021).

As pointed out by authors such as Argibay, Celorio and Celorio (1997), the different economic, social and political crises that have occurred throughout history, far from mitigating the differences, have led to significant increases in inequality between human beings in the same geographical area and between the different regions of the planet. Therefore, after this health, economic and social crisis caused by the COVID-19 pandemic is foreseeable that these inequalities will increase substantially in the coming years. For this reason, Scherack and Rieckmann (2020) and Fernández-Sánchez et al. (2014) indicate that education must become a transformative process, helped by

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collaboration between countries with different cultures to increase the support and participation of citizens, in order to achieve a supportive, fairer and equitable global society, based on respect for human rights and a more sustainable environment.

North countries have not been able to eradicate problems of inequality, poverty and social injustice neither in their countries nor in the South countries. This is a fact that can be seen today, and social welfare is far from being achieved as long as the traditional forms of aid are not improved, which means getting young people involved and motivated. For them it is essential to correct the individualism that revolves around the idea of traditional classical economics. To combat inequalities, we emphasize cooperation as an essential variable for development that encompasses, like many human qualities, solidarity and respect.

Some development cooperation projects have focused on training in accounting and finance through a twofold approach: on one hand, teaching the accounting and financial skills needed to manage micro-businesses, and on the other hand, raising Social Sciences students' awareness of the countries who need to escape from poverty and they can help (Pérez-Estébanez, Urquía-Grande and Cañizares-Espada, 2022; Pérez-Estébanez, Urquía-Grande and Rautiainen, 2018).

However, it is through practical experiences of collaboration and participatory training that the most committed students have the opportunity to put into practice all the knowledge they have acquired and give back to society the training and privileges they have received. Taking a step further than acquiring skills in accounting or any other discipline, development courses offer the ability to learn, with an open mind, the possibility to analyze sustainable development, as well as to develop competencies to deal with incomplete and complex data with the possibility of involving themselves (Ameli et al., 2021; Alvarez-Risco et al., 2021; Scherack and Rieckmann, 2020; Kishita et al., 2018). According to some authors such as, Noorminshah et al. (2013) and Yadav et al. (2007) different teaching-learning methodologies can be employed, and the right choice ensures motivation, awareness and continuity in the student's learning process. In this sense, we consider that the case study allows the student to approach the business reality and the understanding of academic accounting and financial knowledge, as well as its application in the context of international cooperation (Sarasa, 2011). Active learning methodologies such as role-play, case studies, collaborative projects are essential for students and increase their knowledge on SDGs (Sierra and Rodríguez-Conde, 2021). Furthermore, researches have proven that active and collaborative learning methodologies are very much appreciated by students increasing their commitment, involvement and satisfaction (Murillo-Zamorano et al., 2019).

The emergence of COVID-19 worldwide as a pandemic has caused countless changes in the way of life and relationships of all people at all levels, increasing, in many cases, the difficulties faced on a daily basis. These changes have brought new challenges and learning opportunities. COVID-19 pandemic has changed HE priorities in relation to incorporating sustainability in curricula and rebuilding efforts to focus on SDG goals in the new learning and teaching landscape (Crawford and Cifuentes-Faura, 2022; Petronzi and Petronzi, 2020).

It may be essential to study and analyze some aspects, such as students' involvement in international cooperation comparing the situation before the pandemic with the situation after it. A study carried out in Latin American countries revealed that when training programs about SDG issues were added in the curricular program, students' awareness about 2030 Agenda for sustainable development increased. Moreover, after COVID-19 pandemic students considered Economic Development goal as more important (Ameli et al., 2021; Alvarez-Risco et al., 2021).

HEIs have been particularly affected; its traditional model of knowledge transmission has had to adapt to the new circumstances at a dizzying pace. New methodologies have emerged such as online classes, remote teaching. Teachers and students had to adapt in a short period of time to this new learning practices which was sometimes difficult

because of lack of preparation and technical issues (Crawford and Cifuentes-Faura, 2022; Faura-Martínez et al., 2021; Marinoni, Van't Land and Jensen, 2020; Petronzi and Petronzi, 2020; Portillo et al., 2020).

All these changes may have directly or indirectly influenced the ESD particularly, in HEIs within the disciplines of finance and accounting, this issue will be the aim of this research. Following the thread of this reasoning, the main objective of this work is to find out if there have been significant differences in the involvement of the students about international cooperation in the HEIs context after the pandemic, specifying what type of variables can influence students' involvement. The following research questions are defined:

*RQ1: Are there differences in the involvement of the university students about international cooperation between the Pre-COVID and the COVID-19 academic years?*

*RQ2: Has the COVID 19 health crisis made students reconsider their involvement in helping emerging countries?*

*RQ3: Has the COVID 19 health crisis made students rethink the possibilities to help organizations or people in need from the University?*

This work has the following structure it begins with an introduction, in which the research is motivated and the starting situation is raised, highlighting the importance of the study. Then, a theoretical framework based on ESD and how it has been affected by the pandemic situation is developed, along with the exposition of the research done so far in this context. It continues with the methodology, in which empirical multivariate analysis have been run. In the next section, the results obtained from the analyses of the sample are shown; and finally, the findings discussion and conclusions are defined, in respond to the research questions posed.

## 2. State of the art: education for sustainable development and COVID-19

Since the end of the last century, Education for Sustainable Development (ESD) has undergone strong momentum and significant changes. Sustainability integrates the complexity of social, economic and ecological, so that people can live with equal rights and duties and the economy can allow a fair distribution of wealth to cover basic needs and optimize the use of resources (Fernández-Sánchez et al., 2014). However, the emergence on the scene of COVID-19 has brought strong changes at all levels and in all areas, although the extent of these changes is not yet known with certainty.

The definition of ESD provided by the [Environmental Association for Universities and Colleges \(2013\)](#) is the process of acquiring the knowledge, skills and attitudes needed to build societies that are fair, equitable and live together within the environmental limits of our planet, both currently and in the near future. This definition is basic for the theoretical framework of this paper.

Since the end of the 1960s, with the development of NGOs and the emergence of the concept of the "Third World", the concept of ESD appeared in parallel. At first, ESD was not well defined or developed, and only had the objective of informing, raising funds and training professionals who could work in solidarity aid actions that were carried out mainly in the countries of the South (Boeve-de Pauw et al., 2015; Fernández-Sánchez et al., 2014; Argibay, Celorio and Celorio, 1997).

The turning point in this process came when UNESCO drafted the report of recommendations on Education for International Understanding, Cooperation and Peace and Education Relating to Human Rights and Fundamental Freedoms in 1974, recognizing the importance of this education as a means of contributing to the solution of the problems facing humanity (Martínez Scott, Gea Fernández and Barba Martín, 2012). This UNESCO report was written with the intention of educating for international understanding and cooperation, understanding education as the driving force to achieve the goals set out in the Charter of the United Nations, the UNESCO constitution, the Universal Declaration of Human Rights and the international Geneva Conventions.

This report referred to the need to consider, as guiding principles of educational policy, education in an international dimension and a global perspective, the understanding of the need for solidarity and international cooperation and the will of all States to participate in the solution of the problems of their community, their country and the whole world (UNESCO, 1974).

The consideration of education as one of the most important methods of solving the fundamental problems surrounding human survival and well-being along with cooperative measures, gives ESD a leading role at the international level and makes it a priority for many countries (Grosbeck et al., 2019; Rieckmann, 2018; Lozano et al., 2013; UNESCO, 2021, 2020; Mochizuki and Fadeeva, 2008; Calder and Clugston, 2003). As a fundamental part of any country's education system, HEIs have an important role to play in ESD, fostering the learning of skills and values and preparing students for decision-making to promote pluralistic development and sustainable societies (Laurie et al., 2016; Fernández-Sánchez et al., 2014; Van Poeck and Jürgen, 2011; Delors, 1996). They also play a key role in clarifying the role of ESD, linking sustainability not only to environmental, but also to social and economic aspects (Coleman and Gould, 2019; Kagawa, 2007; Koprina and Meijers, 2014; Nejati and Nejati, 2013). Additionally, numerous studies show a positive perception of the case study as a teaching method in the context of HEIs. When students play an active role, learning activities become more enjoyable and participation and commitment increase leading to a better students' satisfaction (Sierra and Rodríguez-Conde, 2021; van den Berg et al., 2020; Bonatti et al., 2018; Amado et al., 2017; Marion et al., 2016; Noorminshah et al., 2013; Yadav et al., 2007).

Among the most relevant research works on the effects of the COVID-19 crisis on the activity carried out in the field of HEIs is the initiative of the International Association of Universities (IAU). The IAU, founded in 1950 under the auspices of UNESCO, is an independent, non-governmental organization that represents the interests of this educational level. In its concern for this whole situation, it has developed its own research in which it plans to carry out three surveys worldwide at three different times; the report of the results obtained in the first one is currently available. In this first report, Marinoni, Van't Land and Jensen (2020) aim to provide an overview of the disruptions caused by COVID-19 on the development of HEIs activities around the world and of the first initiatives taken to mitigate all disruptions and maintain their goals of educating, generating knowledge and advancing science, serving local communities and society at large. The report offers globally relevant findings, as it has found that more than half of the institutions have been affected in some way. Institutions were closed for a long period of time, their activities cancelled, but most have been able to maintain communication with their students, relying on distance learning. In spite of the latter, most are of the opinion that the whole situation will have a negative effect on the number of enrolments for new courses, both locally and internationally (Liu and Nao, 2022). Mobility is another aspect that has been affected very strongly, transforming physical mobility into virtual mobility, causing the cancellation of many scientific conferences and stagnation in this aspect. Directly related to the objectives of this research, the report also states that the social commitment initiatives undertaken by the universities have varied, and have generally intensified, but not in the same way, nor in all types, nor with the same intensity. For this reason, the analysis of the differences that have arisen within this research of ESD, which began in a first phase before the pandemic, is so relevant and has its continuity in the present research that will allow the analysis of the students' differences within the case study addressed and students' involvement towards students' involvement in international cooperation after the COVID crisis. This recent pandemic crisis has had an immediate effect on education, highlighting the strengths and weaknesses of a situation where technology comes to occupy a predominant position to maintain the teaching and learning processes (Gomez, Sanchez, Martinez, 2021).

Therefore, the pandemic is reshaping priorities for higher education actors and institutions confronting COVID-19 with critical effects on

University practices in learning and teaching, even more in a subject as international cooperation for achieving sustainable development (Crawford and Cifuentes-Faura, 2022).

### 3. Methodology

In this research we tried to analyse if there have been differences in the level of implication of the students in international cooperation, once they have been attending to seminars or conferences about the topic. As the pandemia burst in, we then wanted to test if the pandemic situation has changed the students' level of implication with these topics. As Herreid (2011) points out, the case study methodology is applicable to many different areas of knowledge, including development cooperation, allowing students to learn about specific situations that occur in contexts different from those students normally handle, developing their academic skills in a real concrete situation (Marion et al., 2016; Foran, 2001). Through the methodology applied, issues such as cognitive skills, social awareness and teamwork are developed. Our study was conducted in the period of 2019–2021, distinguishing clearly when the pandemic situation states in Spain.

There was one seminar, mainly of two sessions of two hours at the end of the subject course. Depending on the course and degree it happened on the first or second semester depending on the degrees programmes. In the first session, we present the situation in the areas of Ethiopia studied where the NGO works. We showed the students different videos to sensibillised them to the situation of the inhabitants of these rural areas. One they know about their situation, we prepare the students reading the case prepare for them to work with attending to what they have seen along the course and also of what the learned in the session. We use the second session for the work of the students solving the case numerical and also with a written report that helps them to profound in what they have obtain, and finally can help the NGO and the Ethiopian farmers.

Once the students have attended to the seminars, where they were sensitized about the need of their involvement in cooperation with conferences run by experts, mainly, NGO missionaries with whom some teachers are linked. These missionaries work in a rural area of Ethiopia and the teachers have collaborated with them in several research stances in Ethiopia. The case study includes information about the wells finance (Urquía-Grande et al., 2017). The missionaries together with the teachers explain the information about the case and their projects of education, agriculture, health and economics within international cooperation. Afterwards, students, sorted by cooperative teams, solved the case study based on their experience with various NGOs working in Africa. Finally, they filled a questionnaire that consisted in, a first part of socio-demographic questions such as where they study, the degree or course and their gender and a second part of specific questions about international cooperation, the awareness and involvement, previous and achieved due to the seminar and case study. The two last questions present the dependent variables "*the COVID 19 health crisis made me to reconsider my involvement in helping emerging countries*, and *COVID 19 health crisis made me rethink my possibilities to help organizations or people in need, from the University*."

The variables used in the questionnaire are shown in Table 1.

The sample consisted on 620 students from different universities, two public universities, Complutense University of Madrid (UCM) and Rey Juan Carlos University (URJC) and two private universities, CEU and UDIMA. The seminars were run in more universities; however, the data was not fully collected. The students belong to different faculties of Social Sciences and Computer Sciences and studied different grades and/or courses in Accounting and Finance: Bachelor's degree in Economics, Business Administration, Double-degree in Business Administration-Law, Double-degree in Commerce and Tourism, Double-degree in Business Administration and Service Management and Computer Science Engineering. These students belonged to a range of courses from first course to fifth course of their degrees. The 51.3% of the

**Table 1**  
Variables.

Code	Description	Values
COVID	Before covid/ Covid19	Before covid19 (BCV) = 0; covid19 (CV)= 1
S-D_1	University	UCM= 1 URJC= 2;CEU= 3; UDIMA= 4
S-D_2	Faculty	economics= 1; computer science= 2; commerce and tourism= 3; other= 4
S-D_3	Degree	business= 1; economics= 2; computer science= 3; commerce= 4; tourism= 5; other= 6
S-D_4	Course	continue
Gender	Gender	male= 1; female= 2
IC_1	Level of awareness of Development Cooperation	1 = totally disagree, 2 = disagree, 3 = neutral, 4 =agreement, 5 = totally agree.
IC_2	Participation in all the seminars on Development Cooperation	dummy
IC_3	Level of learning about Development Cooperation through the conference/seminars.	1 = totally disagree, 2 = disagree, 3 = neutral, 4 =agreement, 5 = totally agree.
IC_4	Level of commitment after attending the conference/seminars on Development Cooperation	1 = totally disagree, 2 = disagree, 3 = neutral, 4 =agreement, 5 = totally agree.
IC_5	Reflexion on development cooperation in any degree's subject	dummy
IC_6	Consider it is necessary to have more subjects focused on development cooperation in the university	dummy
IC_7	Consider there should be at least one conference on Economics and development cooperation in the Faculty	dummy
IC_8	Type of financial resource	1 = crowdfunding; 2 = crowdfunding donation; 3 = third-part lending
ICD_1	The COVID 19 health crisis made students reconsider their involvement in helping emerging countries	1 = totally disagree, 2 = disagree, 3 = neutral, 4 =agreement, 5 = totally agree.
ICD_2	The COVID 19 health crisis made students rethink the possibilities to help organisations or people in need from the University	1 = totally disagree, 2 = disagree, 3 = neutral, 4 =agreement, 5 = totally agree.

Source. Own elaboration

population were male and 48.5% were female, the difference corresponds to students that did not want to answer this question. The majority of the students belongs to the Complutense University (82.1%), the remaining correspond to the other universities in a similar rate. Regarding the faculty, Economics averaged a 61.5%, Computer Science (18.2%), Commerce and Tourism (13.5%) and the remaining belong to other minorities. Considering the degree of the students, the majority were studying Business (39.8%), Computer Science (11.8%), Economics (4.8%), Commerce (3.9%), Tourism (0.5%) and other belonged to other Social Sciences degrees (39.2%). Finally, students mainly belonged to second course (41.5%), third course (25.3%), first course (18.4%), fourth course (14.2%) and a minority to the fifth course (0.6%).

Once we collected the responses in the questionnaires we run the analysis using SPSS-27. The variables statistical summary is shown on Table 2. To analyze if there were differences between both situations (pre COVID vs post COVID) we used a Student's t-test, and to test research question 2 we run a weighted least squares regression, weighted by the variable COV19.

**4. Results and discussion**

The results of the t-test regarding the possible differences between the students' involvement in international cooperation within the

**Table 2**  
Descriptives.

	N	Minimum	Maximum	Mean	Std. Deviation
COV19	620	0	1	0.50	0.500
S-D_1	620	1	4	1.30	0.707
S-D_2	620	1	5	1.66	0.961
S-D_3	620	1	6	3.38	2.257
S-D_4	620	1	5	2.37	0.962
Gender	620	1	3	1.49	0.503
IC_1	614	1	5	2.86	1.175
IC_2	614	0	2	0.87	0.725
IC_3	604	1	5	3.61	1.077
IC_4	602	1	5	3.44	0.987
IC_5	594	0	2	0.74	0.776
IC_6	594	0	2	0.36	0.705
IC_7	595	0	2	0.27	0.628
IC_8	493	1	3	1.18	0.541
ICD_1	278	1	5	3.53	0.960
ICD_2	279	1	5	3.43	0.918
Valid N (listwise)	79				

Source. Own elaboration

precovid era or during the pandemic situation defined in research question 1 are shown on Table 3.

Regarding the significant results we can find several outcomes. It is clear the students' involvement with international cooperation in line with Sierra and Rodríguez Conde (2021), however there are mixed results when analysing differences between the previous situation to Covid-19 and the pandemia status. Concretely, there is more students participation (IC\_2) ( $t = -2.305$ ;  $p = 0.022$ ) after COVID. The same happens in students' learning level about development (IC\_3) ( $t = -2.453$ ;  $p = 0.014$ ) and level of commitment (IC\_4) ( $t = -2.652$ ;  $p = 0.008$ ) where it increases after COVID. However, interestingly, students' perception about needing more development subjects in their curricula (IC\_6) ( $t = -2.019$ ;  $p = 0.044$ ) decreases after COVID. Similarly when students solve the real case study about the wells' project finance before COVID students tend to propose easier types of financial resource the NGO need for the wells (IC\_8) ( $t = -4.572$ ;  $p = 0.000$ ) than after COVID. The rest of the variables were not significant.

Deepening in the analysis of the involvement of the students about SD in the university focused in international cooperation we run a multivariate regression. The results show in Table 4 that, regarding the socio-demographic variables, the course (S-D\_4) the students are

**Table 3**

Differences in the involvement of the university students about international cooperation between the PreCOVID and the COVID-19 course.

COV19	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)	
IC_1	BCV	308	2.88	1.170	0.318	612	0.750
	CV	306	2.85	1.181			
IC_2	BCV	306	0.80	0.703	-2.305	612	0.022
	CV	308	0.94	0.741			
IC_3	BCV	296	3.50	1.132	-2.453	602	0.014
	CV	308	3.72	1.012			
IC_4	BCV	294	3.33	1.036	-2.652	600	0.008
	CV	308	3.54	0.928			
IC_5	BCV	293	0.75	0.748	0.103	592	0.918
	CV	301	0.74	0.804			
IC_6	BCV	292	0.42	0.739	2.019	592	0.044
	CV	302	0.30	0.666			
IC_7	BCV	293	0.32	0.656	1.731	593	0.084
	CV	302	0.23	0.597			
IC_8	BCV	218	1.31	0.653	4.572	491	0.000
	CV	275	1.09	0.409			
ICD_1	BCV	97	3.59	0.944	0.702	276	0.483
	CV	181	3.50	0.970			
ICD_2	BCV	96	3.45	0.857	0.187	277	0.852
	CV	183	3.43	0.951			

Source. Own elaboration

**Table 4**  
Variables affecting the involvement of the students in international cooperation.

	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	2.896	0.437		6.633	0.000
S-D_4	-0.155	0.090	-0.141	-1.724	0.087
Gender	0.459	0.143	0.246	3.208	0.002
IC_1	0.102	0.059	0.129	1.729	0.086
IC_4	0.174	0.076	0.179	2.298	0.023
IC_6	-0.216	0.108	-0.154	-1.994	0.048
IC_8	-0.500	0.196	-0.188	-2.550	0.012
R square.211					

Source. Own elaboration. Weighted Least Squares Regression - Weighted by COVID-19.

enrolled affects inversely their involvement ( $B = -1.724$ ;  $p = 0.087$ ), while *gender* ( $B = 3.208$ ,  $p = 0.002$ ) has a positive causal relationship with the dependent variable Involvement. Concerning the International Cooperation (IC) variables of the study, the *level of awareness of Development Cooperation* (IC\_1) has a positive causal relationship ( $B = 1.729$ ;  $p = 0.086$ ) and also the *level of commitment after attending the conference/seminars on Development Cooperation* (IC\_4) has the same positive relationship ( $B = 2.298$ ;  $p = 0.023$ ) when analyzing the variables which affected the students' involvement in cooperation. However, the variable about students considering necessary to have more subjects focused on development cooperation in the university (IC\_6) ( $B = -1.994$ ;  $p = 0.048$ ) had an inverse relationship. When analyzing the variable about the financial resources students propose the NGOs to choose to help them build the wells (IC\_8) ( $B = -2.250$ ;  $p = 0.012$ ), has also a reverse causal relationship with the involvement of the students to IC. Both variables which have a significant inverse influence on the student's involvement must be reviewed. The rest of the variables included in the model were not significant.

Finally, to know which variables affect the way the students reconsider and rethink their position about international cooperation from their universities, the results of the regression are shown on Table 5.

About the analysis, the type of degree the student is enrolled (S-D\_3) is the only socio-demographic variable affecting positively the dependent variable ( $B = 2.379$ ;  $p = 0.019$ ). The level of awareness of international cooperation (IC\_1) has a positive causal relationship ( $B = 1.979$ ;  $p = 0.050$ ) as well as the level of the students' commitment after attending the seminars on International Cooperation (IC\_4) has a positive causal relationship ( $B = 2.124$ ;  $p = 0.035$ ). Again, the variable where the student considers if it is necessary to have more subjects focused on development cooperation in the university (IC\_6) ( $B = -2.309$ ;  $p = 0.022$ ) and the variable where the students answer if the NGO beneficiaries need any type of financial resources (IC\_8) ( $B = -3.048$ ;  $p = 0.003$ ), have an inverse relationship with the involvement of the students to International Cooperation. The rest of the variables included in the model were not significant.

**Table 5**  
Variables affecting the students rethinking and reconsidering about international cooperation from the university.

	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	3.088	0.387		7.977	0.000
S-D_3	0.075	0.032	0.173	2.379	0.019
IC_1	0.113	0.057	0.147	1.979	0.050
IC_4	0.153	0.072	0.162	2.124	0.035
IC_6	-0.232	0.100	-0.172	-2.309	0.022
IC_8	-0.583	0.191	-0.223	-3.048	0.003
R square.194					

Source. Own elaboration. Weighted Least Squares Regression - Weighted by COVID-19.

## 5. Findings discussion and conclusions

Currently, Education for Sustainable Development is essential within the Higher Education context. Students must acquire knowledge, skills and attitudes to build societies which fight to acquire fairness and equity for all citizens in the world (Alvarez-Risco et al., 2021; Grosseck et al., 2019). However, just when students had made progress in developing knowledge, skills and values in line with the SDGs, the pandemic brought this development to a screeching halt in 2020. The pandemic increased again the world inequalities. It is evident the pandemic collided on university practices, the way of teaching and the way of learning. In this research we demonstrate there were differences between pre-COVID and post COVID in the students' participation and involvement in international cooperation seminars about collaborating with NGOs in Southern countries.

Regarding the determinants of the HEIs students to rethink their international cooperation concept, after COVID crisis, we found the academic year in which they were enrolled and gender were determinant variables influencing students' involvement in line with Hadjeris (2021) Younger students and female students were more motivated and involved with sustainable development. Students felt their awareness and commitment increased when learning in the seminar and solving the case with the teacher and the missionaries' assistance.

Similarly, there were several variables which affected students' reconsideration and rethinking (after COVID crisis) international cooperation from their universities to help Southern countries. These variables were the degree where they studied, the student's awareness and commitment they felt once the seminar was taught and having to solve a real case study. University students have been very much affected by the pandemic, mostly the youngest (the lower the grade the students were enrolled the higher their cooperation involvement and reconsideration). The majority of the sample analyzed was students in the second course (aged 20 years). These students, when asked face to face, explained they are looking for cooperation development projects to get involved with and therefore, enjoyed the seminar and solving a real case study of the Southern countries problems. As an example of students' commitment, we observed that the variable about how the NGO could design a project finance for their infrastructure donations was one variable that

influenced significantly on students' reconsideration of helping developing economies (Urquía-Grande et al., 2021; Urquía-Grande and del Campo, 2017). Also the female students reconsidered more ways to cooperate with Southern countries.

As contributions for the HEIs actors, we propose more subjects about international cooperation in Social Sciences curricula. In line with Crawford and Cifuentes-Faura (2022) and Petronzi and Petronzi (2021) we claim that Higher Education Institutions must deploy global, academic, economic research strategies to enable sustainable international cooperation. As contributions for the NGOs actors this research shows HEIs and NGOs can work together promoting Education for sustainable development in line with Sierra and Rodríguez-Conde (2021). We propose that we need to create more different strategies in the university to increase the level of exposure of the students to the international cooperation, such as implement more seminars, conferences etc., to bring students closer to another situations and realities in the context of international cooperation.

As future research lines we are going to continue the analysis in other universities and will try to connect the seminars done with the NGO beneficiaries in Africa so that students could start collaborating on-line as HEIs have developed further the digital platforms to work on line.

### CRedit authorship contribution statement

**Raquel Pérez Estébanez:** Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Roles/Writing – original draft; Writing – review & editing, **Elena Urquía Grande:** Conceptualization; Data curation; Investigation; Methodology; Project administration; Resources; Validation; Visualization; Roles/Writing – original draft; **Manuela Cañizares:** Conceptualization; Data curation; Investigation; Methodology; Visualization; Roles/Writing – original draft, **Miguel Ángel Villacorta:** Conceptualization; Data curation; Investigation; Methodology; Resources; Roles/Writing – original draft, **Marie Anne Lorain:** Conceptualization; Data curation; Investigation; Methodology; Roles/Writing – original draft; **Gracia Rubio Martín:** Conceptualization; Data curation; Investigation; Methodology; Resources.

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